57-2B-2 64

S-356(101)

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID INTERSTATE HIGHWAY

57-2B-2
SECS. 57-2HB McLEAN COUNTY
57-2BR *

PROJECT I-55-5(36)177

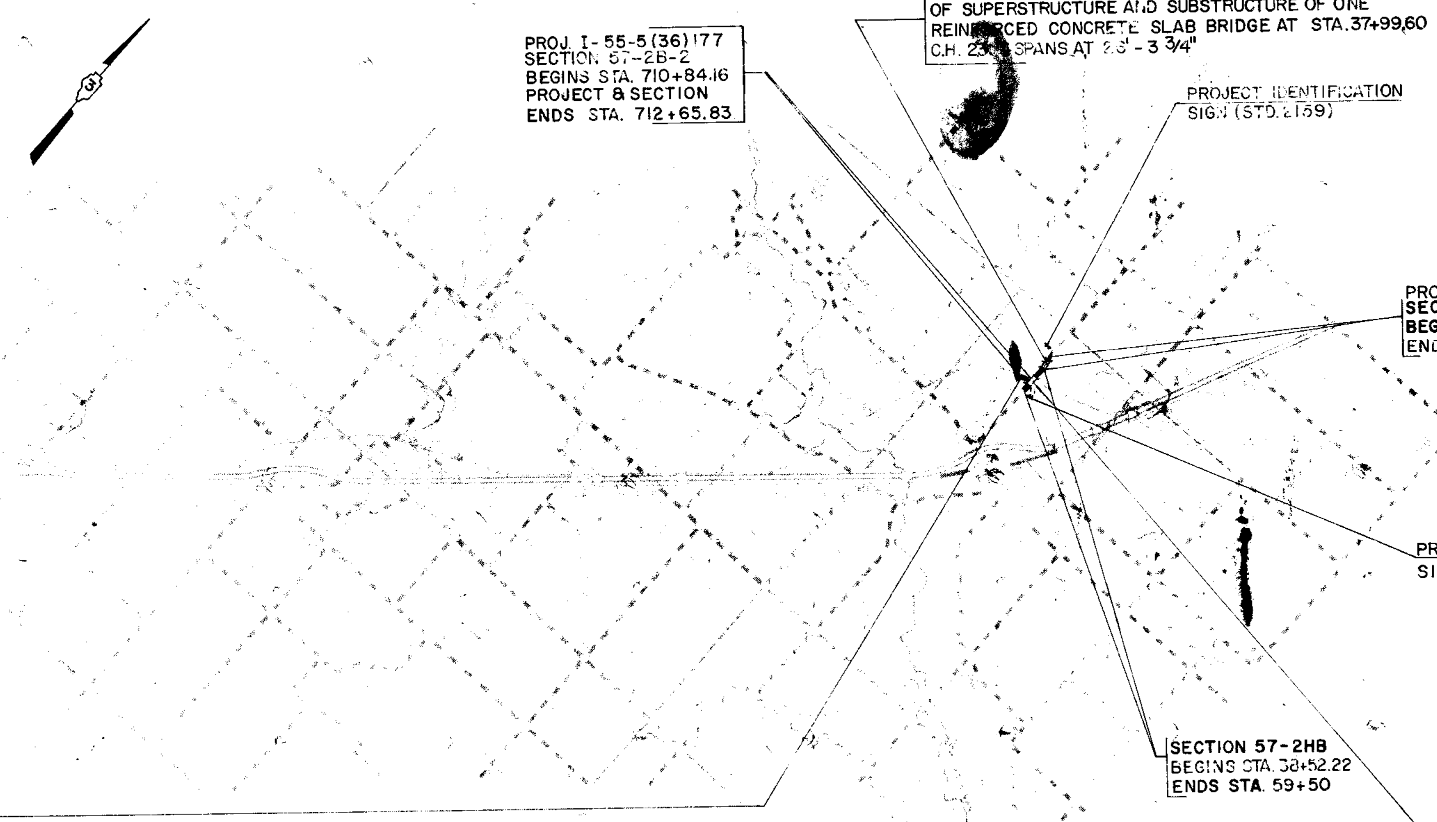
C-93-010-72
C-93-032-72

* COUNTY DESIGNATION
SECTION S-BR
PROJECT S-356 (101)
FAS ROUTE 356

INDEX OF SHEETS

SHEET NO	TITLE
1	COVER SHEET & INDEX OF SHEETS
2	TYPICAL CROSS SECTIONS
3-4	TABULATIONS, GENERAL NOTES & SUMMARY OF QUANTITIES
5	PLAN & PROFILE, C.H. 23
6	PLAN & PROFILE, F.A.I. 55
7	EARTH CONE TREATMENT DETAIL
8	SEEDING DETAILS
9	DETAILS - FIELD TILE HEADWALL & APPROACH SLABS
10-26	BRIDGE PLANS, SECTION 57-2B-2
27-39	BRIDGE PLANS, SECTION 57-2HB
40-47	BRIDGE PLANS, SECTION 57-2BR
48-49	CULVERT PROFILES, C.H. 23
50-55	CROSS SECTIONS, C.H. 23
56-62	CROSS SECTIONS, F.A.I. 55
63-64	CROSS SECTIONS, TURKEY CREEK CHANNEL CHANGE

1683-2
1686-3
1744-2
1909-10
1976
1997
1998
2051
2113-1
2115-3
2149-8
2153-9
2159-7
2213-3
2228-2
2230-7
2231-3
2237-6
2262-1
2298-3
2299-4
2300
2324-1



SECTION 57-2BR INCLUDES THE RECONSTRUCTION OF SUPERSTRUCTURE AND SUBSTRUCTURE OF ONE REINFORCED CONCRETE SLAB BRIDGE AT STA. 37+99.60 C.H. 23; 3 SPANS AT 23'-3 3/4"

PROJ. I-55-5(36)177
SECTION 57-2B-2
BEGINS STA. 710+84.16
PROJECT & SECTION
ENDS STA. 712+65.83

PROJECT IDENTIFICATION SIGN (STD. 2159)

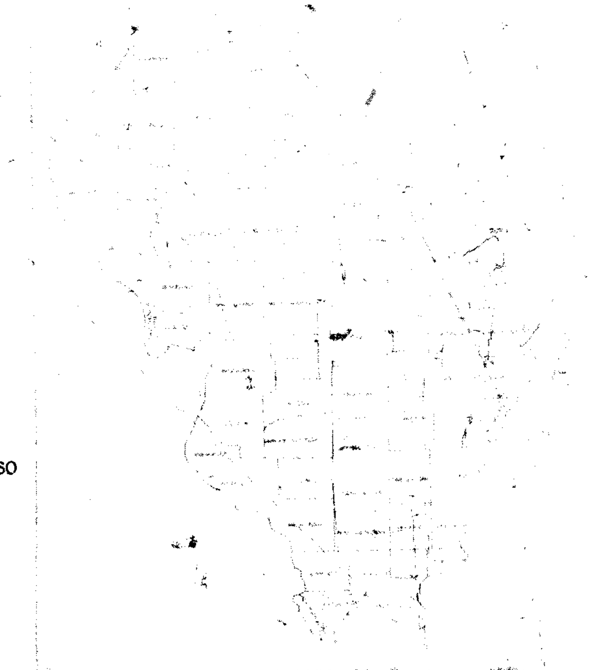
PROJ. S-356(101)
SECTION 57-2BR
BEGINS STA 34+00
ENDS STA. 38+52.22

PROJECT IDENTIFICATION SIGN (STD. 2153)

SECTION 57-2HB
BEGINS STA. 38+52.22
ENDS STA. 59+50

SECTION 57-2B-2 INCLUDES THE CONSTRUCTION OF DUAL CONTINUOUS 3 SPAN STEEL GIRDER BRIDGES OVER TURKEY CREEK AT STA. 711+75, F.A.I. RTE. 55; END SPANS AT 55'-9" AND CENTER SPAN AT 65'-2", & CONSTRUCTION OF THE TURKEY CREEK CHANNEL CHANGE.

SECTION 57-2HB INCLUDES THE FABRICATION, FURNISHING AND CONSTRUCTION OF ONE COMPOSITE CONCRETE & WELDED PLATE STEEL GIRDER BRIDGE AT STA. 714+75.07(F.A.I. 55) = STA. 50+00(C.H.23); 4 SPANS: 2 AT 20'-0" & 2 AT 107'-2"



LOCATION OF SECTION INDICATED THUS

DEPARTMENT OF TRANSPORTATION
5/10/72

UNDER SECRETARY, CHIEF TRANSPORTATION ENGINEER

SECRETARY

HURST-ROSCHE ENGINEERS, INC.
1400 E. TREMONT, HILLSBORO, ILL.

S = 57-2B-2 = 181.67 FEET = 0.034 MILES
S = 57-2HB = 2097.78 FEET = 0.397 MILES
S = 57-2BR = 452.22 FEET = 0.086 MILES

NET LENGTH OF I PROJECT = 181.67 FEET = 0.034 MILES
NET LENGTH OF S PROJECT = 452.22 FEET = 0.086 MILES

C.H. 23 = 3230(94)·TRUNK·20.27 (P.C.C. 20)
705(73)·E· 0.09 (B20)

C # Rev. 6-27-72

57-2B-2

1. AGGREGATE SHOULDER TYPE A
2. [illegible]
3. [illegible]
4. [illegible]
5. SUB - SURFACE DRAIN

TYPICAL SHOULDER SECTION

FOR F.A.I. ROUTE 55
(FOR INFORMATION ONLY)

HIGHWAY CLASSIFICATION: TRUNK

STRUCTURAL DESIGN TRAFFIC: YEAR 1985 / ADT 17,642
SDT 1329 / DHV 5196

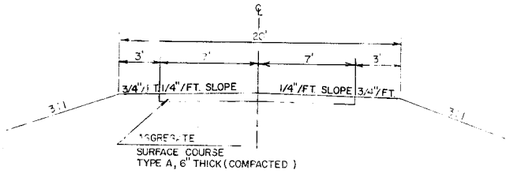
CLASS I ROAD

MINIMUM SOIL SUPPORT: CBR = 3.0

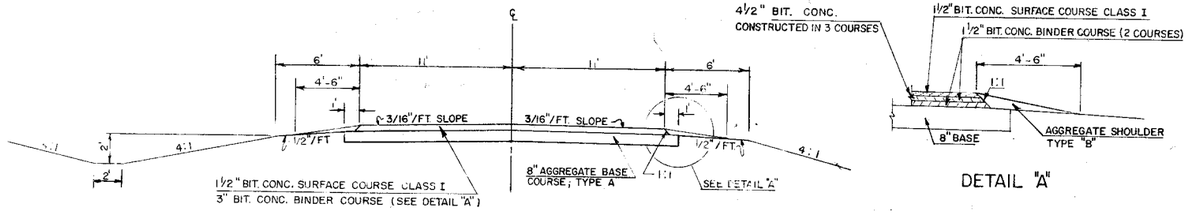
PER CENT OF S.D.T. IN DESIGN LANE: U_P = 0.50 U_S = 0.50 U_m = 0.50
T.F. = 20.27 D_T = 6.18

SUB-SURFACE DRAINS:

THE SUB-SURFACE DRAINS SHALL BE AS DETAILED ON STANDARD 2327

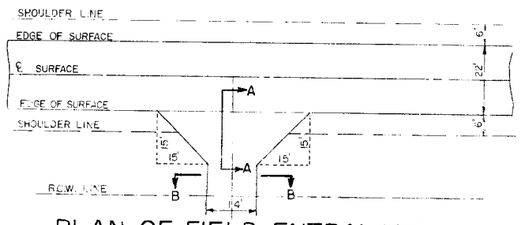


FIELD ENTRANCE
SECTION B-B

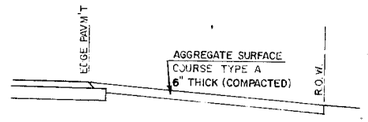


TYPICAL CROSS SECTION FOR C.H. 23

DETAIL "A"



PLAN OF FIELD ENTRANCES



SECTION A-A

State of Illinois
District Three

Reviewed By: [signature]
District Engineer of Design

Date: 5-4-72

Examined By: [signature]
District Engineer of Construction

District Engineer of Maintenance

[signature]
District Engineer of Materials

[signature]
District Engineer of Traffic

HIGHWAY CLASSIFICATION: CLASS E
DESIGN SPEED 50 M.P.H.

STRUCTURAL DESIGN TRAFFIC: 1973 A.D.T. = 705

CLASS III ROAD
MINIMUM SOIL SUPPORT: CBR = 3.0

PER CENT OF S.D.T. IN DESIGN LANE: U_P = 0.50 U_S = 0.50 U_m = 0.50
T.F. = 0.09 D_1 = 2.86

PAVEMENT STRUCTURE MATERIALS:
SURFACE COURSE TYPE: 4½" BIT. CL I a_1=0.40
BASE COURSE: 8" AGGREGATE, TYPE A a_2=0.13

TYPICAL CROSS SECTIONS

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I. 55	*	McLEAN	64	3
* 57-2BR, 57-2HB & 57-2B-2				
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

GENERAL NOTES

THE CONTRACTOR SHALL FURNISH AND ERECT TWO (2) SIGNS - ONE CONFORMING TO STANDARD 2153 AND ONE CONFORMING TO STANDARD 2159 AT THE LOCATIONS SHOWN ON SHEET NO. 1 OR AS DIRECTED BY THE ENGINEER.

QUANTITIES INCLUDED FOR POSSIBLE REPAIR OF LOCAL ROADS.

800 TONS AGGREGATE SURFACE COURSE, TYPE A
340 TONS AGGREGATE BASE REPAIR
3,000 SQ. YDS. BITUMINOUS SURFACE TREATMENT CLASS A-3 CONSISTING OF:
1 APPLICATION/BITUMINOUS MATERIALS (PRIME COAT)
3 APPLICATIONS/BITUMINOUS MATERIALS (COVER AND SEAL COATS)
2 APPLICATIONS/COVER COAT AGGREGATE
1 APPLICATION/SEAL COAT AGGREGATE

THE BORROW EXCAVATION TO CONSTRUCT THE EMBANKMENT FOR C.H. 23 SHALL BE OBTAINED BY THE CONTRACTOR AS OUTLINED IN SECTION 204 OF THE STANDARD SPECIFICATIONS. EXCEPT ANY CHANNEL EXCAVATION IN EXCESS OF THAT REQUIRED TO FILL THE EXISTING CHANNEL MAY BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

APPROACH GRADES FOR FIELD ENTRANCES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND CROSS SECTIONS. EARTHWORK IS INCLUDED IN THE QUANTITIES SHOWN.

ALL STATIONING REFERS TO THE SURVEY CENTERLINE EXCEPT AS SHOWN ON PLANS.

DATUM USED FOR SURVEY IS U.S.L.S.

WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.

THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

TREES ALONG THE EDGE OF THE RIGHT OF WAY SHALL BE SAVED, IF IN THE OPINION OF THE ENGINEER THEY DO NOT INTERFERE WITH CONSTRUCTION OPERATIONS. PAYMENT SHALL BE MADE ON THE QUANTITY OF INCH DIAMETER REMOVED.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL UNDER GROUND UTILITY FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITITES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR THEIR MARKING OF THE EXACT LOCATION.

MINIMAL ADJUSTMENTS IN PAY LIMITS OF GUARDRAIL AS DICTATED BY STANDARD DRAWINGS WILL NOT BE MADE WHERE SUCH ADJUSTMENT INVOLVES LESS THAN 6 1/2' OF LENGTH PER CONTINUOUS INSTALLATION.

FOR THE PURPOSES OF THIS CONTRACT, SPRING SEEDING IS THAT DONE BETWEEN JANUARY 1 AND JUNE 30; FALL SEEDING IS THAT DONE BETWEEN JULY 1 AND DECEMBER 31. SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN UNTILLABLE CONDITION. SEEDING SHALL BE IN ACCORDANCE WITH THE SEEDING DETAIL SHEET & THE SPECIAL PROVISIONS.

AREAS TO RECEIVE CLASS 1 SEEDING SHALL INCLUDE ALL SLOPES 4:1 AND FLATTER, INCLUDING THE FLAT CHANNEL EASEMENT SLOPES. SLOPES STEEPER THAN 4:1 INCLUDING CHANNEL CHANGE SIDE SLOPES SHALL RECEIVE CLASS 1(T) SEEDING.

MULCHING SHALL BE IN ACCORDANCE WITH ARTICLE 643.03, METHOD 2.

SUMMARY OF QUANTITIES

CODE	ITEM	UNIT	TOTAL QUANTITY	SEC. 57-2BR (S-BR) BRIDGE	SEC. 57-2BR (S-BR) ROAD	SEC. 57-2HB BRIDGE	SEC. 57-2HB ROAD	SEC. 57-2B-2 BRIDGE	SEC. 57-2B-2 ROAD
	LOCATION OF WORK			C.H. 23 STATION 37+99.60	C.H. 23 STATION 34+00 TO STATION 37+46.98	C.H. 23 STATION 50+00	C.H. 23 STATION 38+52.22 TO STATION 48+72.83 & STATION 51+27.17 TO STATION 59+50	F.A.I. 55 STATION 711+75	F.A.I. 55 STA. 709+80 TO STA. 710+84.69 & STA. 712+65.30 STA. 717+25
	CONSTRUCTION TYPE CODE			X020	6201	X771	6201	X031	X031
201001	TREE REMOVAL (6 TO 15 INCH DIAMETER)	IN DIA	18		18				
201002	TREE REMOVAL (OVER 15 INCH DIAMETER)	IN DIA	24		24				
* 202001	EARTH EXCAVATION	CU YD	34,244		379		5,174		28,691
* 203001	CHANNEL EXCAVATION	CU YD	11,943		263				11,680
204001	BORROW EXCAVATION	CU YD	129,271				129,271		
* 210001	TRENCH BACKFILL	CU YD	42				42		
* 211005	SAND BACKFILL	CU YD	186			186			
* 215004	AGGREGATE SHOULDERS, TYPE B	TON	256		41		215		
* 301001	AGGREGATE BASE COURSE, TYPE A	TON	2,620		400		2,220		
* 301004	AGGREGATE BASE COURSE, TYPE B	TON	94		47		47		
307002	AGGREGATE BASE REPAIR	TON	340				340		
402001	AGGREGATE SURFACE COURSE, TYPE A	TON	944		30		914		
403003	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALLON	3,000				3,000		
403005	COVER COAT AGGREGATE	TON	75				75		
403006	SEAL COAT AGGREGATE	TON	38				38		
406001	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	4,150		424		3,726		
406007	BITUMINOUS CONCRETE BINDER COURSE	TON	912		149		763		
406008	BITUMINOUS CONCRETE SURFACE COURSE - CLASS I	TON	510		66	71	373		
408006	PORTLAND CEMENT CONCRETE PAVEMENT 16 1/2 - 10 1/2 - 16 1/2	SQ YD	152		76		76		
* XZ1010	P.C.C. [illegible] PAVEMENT	SQ YD	25				25		
501001	REMOVAL OF EXISTING STRUCTURES	EACH	1				1		
501015	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1					
501022	CONCRETE REMOVAL	CU YD	21	21					
501026	EXPANSION BOLTS 3/4	EACH	164	164					
* X50201	STRUCTURE EXCAVATION	CU YD	464			77		387	
503004	PROTECTIVE COAT	SQ YD	611	396		190	25		
504002	CLASS A CONCRETE	CU YD	175.2					175.2	
504003	CLASS X CONCRETE	CU YD	1,300.7	202.9		445.5	0.4	651.9	
505001	PRECAST CONCRETE BRIDGE SLAB	SQ FT	299	299					
507025	STUD SHEAR CONNECTORS	EACH	1,860			1,860			
* 507030	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1			0.37 +		0.63 ‡	
508005	ALUMINUM RAILING	LIN FT	1,237			524		713	
508008	STEEL RAILING, TYPE N	LIN FT	289	289					
511025	PIPE CULVERTS, TYPE 1 15"	LIN FT	36				36		
511026	PIPE CULVERTS, TYPE 1 18"	LIN FT	32				32		
511028	PIPE CULVERTS, TYPE 1 24"	LIN FT	24		24				
511029	PIPE CULVERTS, TYPE 1 30"	LIN FT	32				32		
511189	PIPE CULVERTS, TYPE 3 30"	LIN FT	116				116		
511271	PIPE CULVERTS, TYPE 4 42"	LIN FT	180				180		
* X51154	END SECTIONS 15"	EACH	2				2		
* X51155	END SECTIONS 18"	EACH	2				2		
* X51157	END SECTIONS 24"	EACH	2		2				
* X51159	END SECTIONS 30"	EACH	4				4		
* X51162	END SECTIONS 42"	EACH	2				2		
* 512001	REINFORCEMENT BARS	POUND	280,030	44,510	3,560	96,440	3,560	131,960	
513021	FURNISHING CONCRETE PILES	LIN FT	4,737			2,104		2,633	

THE SYMBOL * IN THE SUMMARY OF QUANTITIES INDICATES THOSE PAY ITEMS FOR WHICH A SPECIAL PROVISION HAS BEEN WRITTEN.

+ STRUCTURAL STEEL = 244,540 POUNDS (SEC. 57-2HB)

‡ STRUCTURAL STEEL = 407,600 POUNDS (SEC. 57-2B-2)

TOTAL = 652,140 POUNDS

NOTE : SUMMARY CONTINUED ON SHEET NO. 4

Rev. 10-12-72

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	*	McLEAN	64	4
* 57-2BR, 57-2HB & 57-2B-2				
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

PIPE CULVERT TABULATION

LOCATION	PIPE CULVERTS						CULVERT END SECTIONS				
	TYPE I				TYPE 3	TYPE 4	15"	18"	24"	30"	42"
	15"	18"	24"	30"	30"	42"	LIN. FT.			EACH	
RT. STA. 36+00 (57-2BR)			24						2		
LT. STA. 40+00 (57-2HB)				32						2	
A.R. STA. 42+75 (57-2HB)					116					2	
A.R. STA. 54+00 (57-2HB)						180					2
LT. STA. 58+00 (57-2HB)		32						2			
RT. STA. 58+00 (57-2HB)	36						2				
TOTALS	36	32	24	32	116	180	2	2	2	4	2

RATE OF APPLICATION

THE FOLLOWING RATES OF APPLICATION AND UNIT WEIGHTS INDICATE THE BASIS FOR ESTIMATING QUANTITIES:

EARTH SHRINKAGE FACTOR	25
TOPSOIL PLACEMENT	4 INCH THICKNESS
COARSE AGGREGATE	2.05 TON/CU. YD.
BITUMINOUS MATERIALS (PRIME COAT)	0.5 GALLON/SQ.YD.
BITUMINOUS MATERIALS (COVER AND SEAL COATS)	0.33 GALLON/SQ. YD. PER APPLICATION
COVER COAT AGGREGATE	25 POUNDS/SQ. YD. PER APPLICATION
SEAL COAT AGGREGATE	25 POUND/SQ. YD. PER APPLICATION
BITUMINOUS CONCRETE	112 POUND/SQ. YD/INCH THICKNESS
NITROGEN FERTILIZER NUTRIENT	100 POUNDS/ACRE
PHOSPHORUS FERTILIZER NUTRIENT	100 POUNDS/ACRE
POTASSIUM FERTILIZER NUTRIENT	100 POUNDS/ACRE
AGRICULTURAL GROUND LIMESTONE	3 TONS/ACRE
MULCH	2 TONS/ACRE
EMULSIFIED ASPHALT	100 GALLON/TON OF MULCH

SUMMARY OF QUANTITIES (CONT')

CODE	ITEM	UNIT	TOTAL QUANTITY	SEC. 57-2BR (S-BR) BRIDGE	SEC. 57-2BR (S-BR) ROAD	SEC. 57-2HB BRIDGE	SEC. 57-2HB ROAD	SEC. 57-2B-2 BRIDGE	SEC. 57-2B-2 ROAD
	LOCATION OF WORK			C.H. 23 STATION 37+99.60	C.H. 23 STATION 34+00 TO STATION 37+46.98	C.H. 23 STATION 50+00	C.H. 23 STATION 38+52.22 TO STATION 48+72.63 & STATION 51+27.17 TO STATION 59+50	F.A.I. 55 STATION 711+75	FAI 55 STA. 709+80 TO STA. 710+84.69 & STA. 712+65.30 TO STA. 717+25
	CONSTRUCTION TYPE CODE			X020	6201	X771	6201	X031	X031
513027	DRIVING CONCRETE PILES	LIN FT	4,737			2,104		2,633	
513041	TEST PILE CONCRETE	EACH	6			2		4	
514001	NAME PLATES	EACH	4	1		1		2	
* 603003	STORM SEWERS, TYPE I 8"	LIN FT	202				202		
* 607003	PIPE DRAINS 8"	LIN FT	174				174		
612142	INLETS, TYPE A, TYPE I FRAME, OPEN LID	EACH	4				4		
618001	SLOPE WALL 4 INCH	SQ YD	350			350			
618003	SLOPE WALL 6 INCH	SQ YD	1,136					1,136	
628001	STEEL PLATE BEAM GUARD RAIL, SINGLE RAIL	LIN FT	925		150		775		
* 632001	DELINEATORS	EACH	48		12		36		
* 639001	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	18		5		13		
* 642001	SEEDING, CLASS I	ACRE	8.8		0.7		4.8		3.3
* 642003	SEEDING, CLASS III	ACRE	3.3		0		2.6		0.7
642004	NITROGEN FERTILIZER NUTRIENT	POUND	1,210		70		740		400
642005	PHOSPHORUS FERTILIZER NUTRIENT	POUND	1,210		70		740		400
642006	POTASSIUM FERTILIZER NUTRIENT	POUND	1,210		70		740		400
642007	AGRICULTURAL GROUND LIMESTONE	TON	36.3		2.1		22.2		12.0
643001	MULCH	TON	24.2		1.4		14.8		8.0
643005	EMULSIFIED ASPHALT	GALLON	2,420		140		1,480		800
* 646001	ENGINEERS FIELD OFFICE, TYPE A	EACH	1				1		
* 646003	ENGINEERS FIELD LABORATORY	EACH	1				1		
X21601	TOPSOIL EXCAVATION	CU YD	5,336						5,336
* X21602	TOPSOIL PLACEMENT	SQ YD	48,024		1,116		31,347		15,561
X62801	TERMINAL SECTION, SINGLE RAIL	EACH	8		2		6		
* Z10178	COAL TAR INTERLAYER PROTECTIVE COAT	SQ YD	857			857			
* Z10227	EXPLORATION TRENCH (52 IN. DEPTH)	LIN FT	1,000				500		500
* Z10294	PREFORMED JOINT SEALER	LIN FT	246			70		176	
** XZ1100	TRAINEES	HOUR	2,000						

THE SYMBOL * IN THE SUMMARY OF QUANTITIES INDICATES THOSE PAY ITEMS FOR WHICH A SPECIAL PROVISION HAS BEEN WRITTEN.

** CONSTR. TYPE CODE Y080

EARTHWORK SUMMARY

SECTION	ROADWAY	STA.	TO STA.	THEORETICAL CUT CU. YD.	THEORETICAL FILL CU. YD.	TOPSOIL SOURCES IN CUT(-) CU. YD.	TOPSOIL SOURCES IN FILL(+) CU. YD.	TOPSOIL REQUIRED IN CUT(+) CU. YD.	TOPSOIL REQUIRED IN FILL(-) CU. YD.	ADJUSTED CUT CU. YD.	ADJUSTED FILL CU. YD.	CHANNEL CUT CU. YD.	CHANNEL FILL CU. YD.	BORROW EXCAV. CU. YD.	TOPSOIL PLACEMENT SQ. YD.
57-2BR	C.H. 23	34+00	38+52.22	372	631			7	117	379	514	263			1,116
57-2HB	C.H. 23	38+52.22	48+72.83	746	60,193			96	1,737	842	58,456			72,228	16,497
		48+72.83	49+25	15	4,038				78	15	3,955			4,929	702
		50+75	51+27.17	117	3,611			15	83	132	3,528			4,278	882
		51+27.17	60+00	3,920	42,826			265	1,209	4,185	41,617			47,836	13,266
57-2B-2	FAI 55	709+80	711+00		5,809						5,809				
		711+50	717+25	343	21,863			41	456	384	21,407				4,473
		724+76	733+00	33,643		5,336				28,307					
	TURKEY CREEK	CHANNEL CHANGE		11,111	5,743			569	663			11,680	5,080		17,088
TOTALS						5,336	0	993	4,343	34,244	135,286	11,943 ①	5,080	129,271	48,024

① AN ESTIMATED 5,593 CU. YD. OF CHANNEL EXCAVATION IN EXCESS OF THAT REQUIRED TO FILL THE EXISTING CHANNEL SHALL BE PLACED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

Added XZ1100 6-30-72

Rev. 10-12-72

GENERAL NOTES & SUMMARY OF QUANTITIES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	*	McLEAN	64	5
STA. 33+00		TO STA. 63+00		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

* 57-2HB, 57-2BR, & 57-2B-2

BRIDGE APPROACH SLAB - CONSTRUCT 2

STA. 37+20.05 TO STA. 37+47.27 (SECTION 57-2BR)
STA. 38+51.93 TO STA. 38+79.15 (SECTION 57-2HB)
QUANTITIES FOR 1 - STD. 1909 (25' WIDE) METHOD I

3560	LBS REINFORCING BARS
76	SQ. YDS. P.C.C. PAVEMENT (16½", 10½", 16½")
23	CU. YDS. AGGREGATE BASE COURSE, TYPE B

CURVE DATA
P.I. STA. 40+14.51
Δ = 5°-17'-27"
D = 2°-19'-41"
R = 2461.22'
T = 200.00'
L = 399.06'
E = 8.11'
S.E. = 0.042'/'
S.E. ATTAINED:
STA 37+39.51 TO STA. 38+89.51
STA 43+13.57 TO STA. 41+63.57

CURVE DATA FR. RD. NO. 6
P.I. STA. 17+26.71
Δ = 40°-27'-57"
D = 12°-30'
R = 458.37'
T = 168.94'
L = 323.73'
E = 30.14'

	STEEL PLATE BEAM GUARD RAIL LIN. FT.	TERMINAL SECTION SINGLE RAIL EACH
SECTION 57-2BR		
LT. STA. 35+98.1 TO LT. STA. 36+98.1	75.0	1
RT. STA. 36+16.7 TO RT. STA. 37+16.7	75.0	1
TOTAL	150.0	2
SECTION 57-2HB		
LT. STA. 38+82.4 TO LT. STA. 39+82.4	75.0	1
RT. STA. 39+01.1 TO RT. STA. 40+01.1	75.0	1
LT. STA. 46+27.1 TO LT. STA. 48+64.6	212.5	1
RT. STA. 46+71.2 TO RT. STA. 48+71.2	175.0	1
LT. STA. 51+28.2 TO LT. STA. 52+28.2	75.0	1
RT. STA. 51+35.4 TO RT. STA. 53+22.9	162.5	1
TOTAL	775.0	6

NOTE: PAVEMENT TO TRANSITION FROM 20' WIDTH AT STA. 32+50 TO 22' WIDTH AT STA. 34+00. & FROM 22' WIDTH AT STA. 59+50 TO 20' WIDTH AT STA. 61+00. 34 TONS OF BIT. CONC. BIND. CSE. ARE ALLOWED FOR THE PROPOSED 6" DEPTH TRANSITIONS.

NOTE:
(1) FOR QUANTITIES & DETAILS OF BRIDGE APPROACH SHOULDER PAVEMENT & BRIDGE END DRAINAGE, SEE CULVERT PROFILES, SHEET NO. 48 & 49

SCALE: 1" = 100'

RIGHT OF WAY MARKERS THIS SHEET = 18 EACH
TREE REMOVAL (6" TO 15" DIA.) = 18"
TREE REMOVAL (OVER 15" DIA.) = 24"

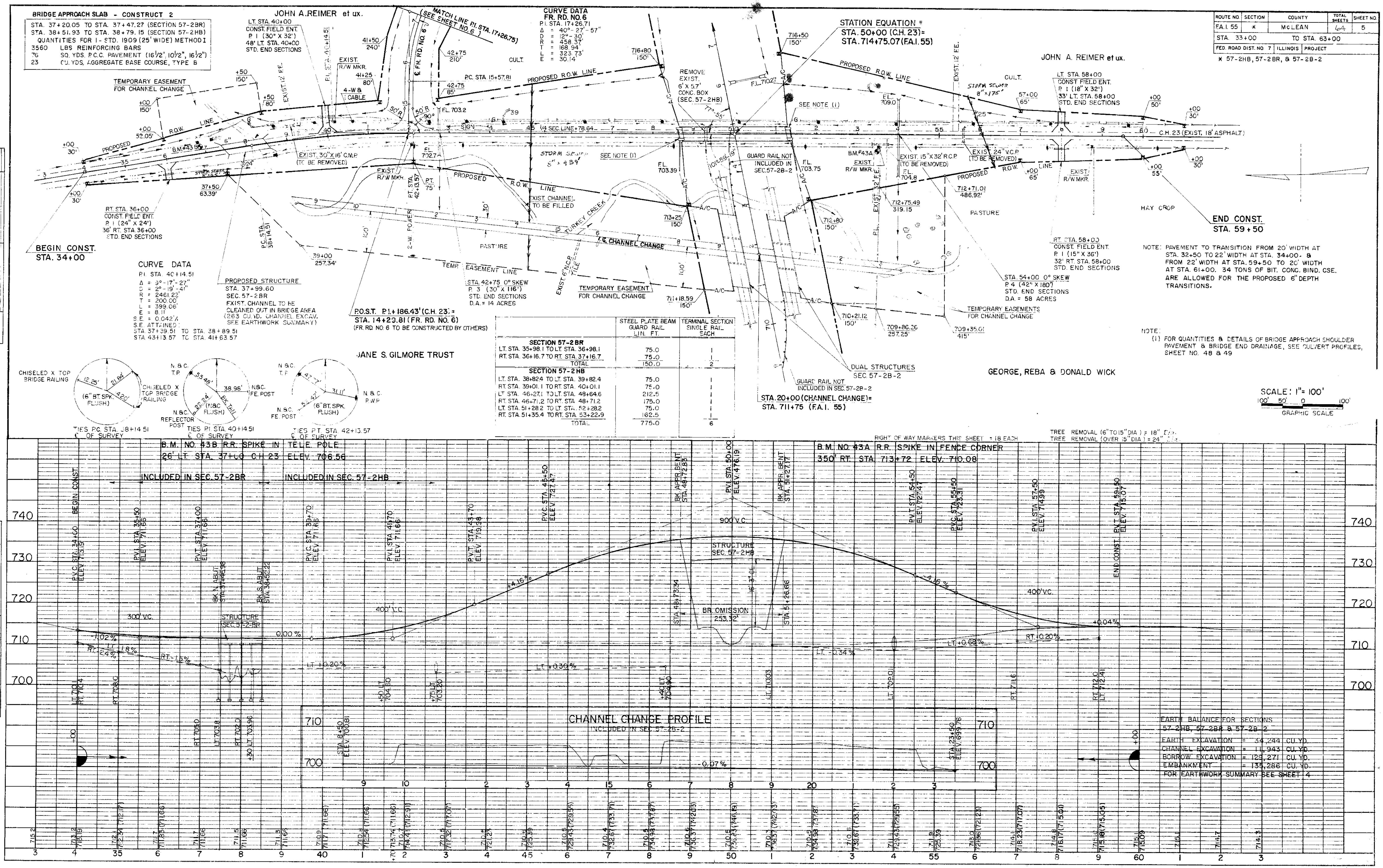
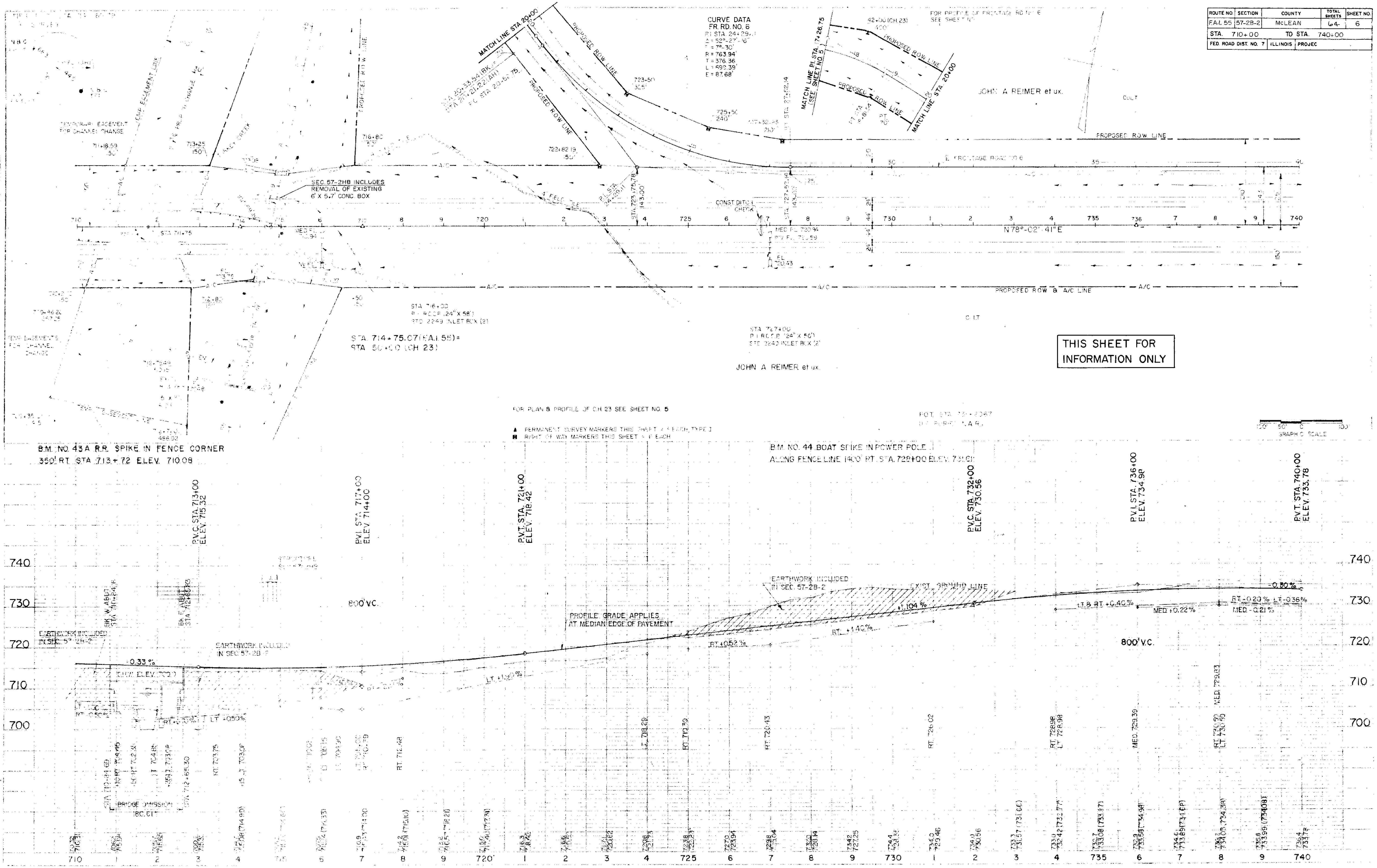


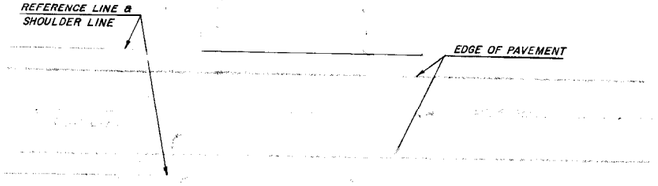
PLATE 1—PLAN PROFILE & P. B. STANDARD
THE FREDERICK POST CO., CHICAGO

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	6
STA. 710+00		TO STA. 740+00		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



ROUTE NO.	SECTION	COUNTY	SHEET	
FAI 55	57-2HB	McLEAN	64	7
STA		TO STA		
FED. ROAD DIV. NO.		ILLINOIS		

WITH S

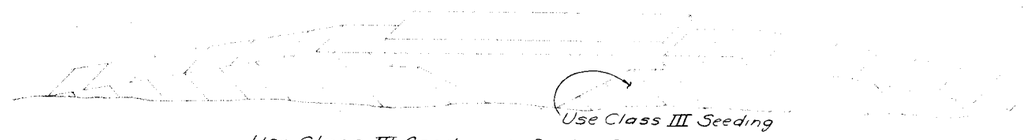


SHOULDER LINE &

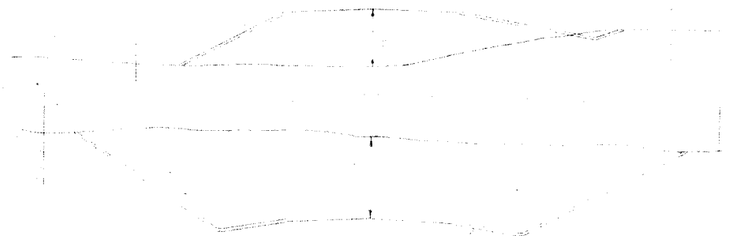
WITH

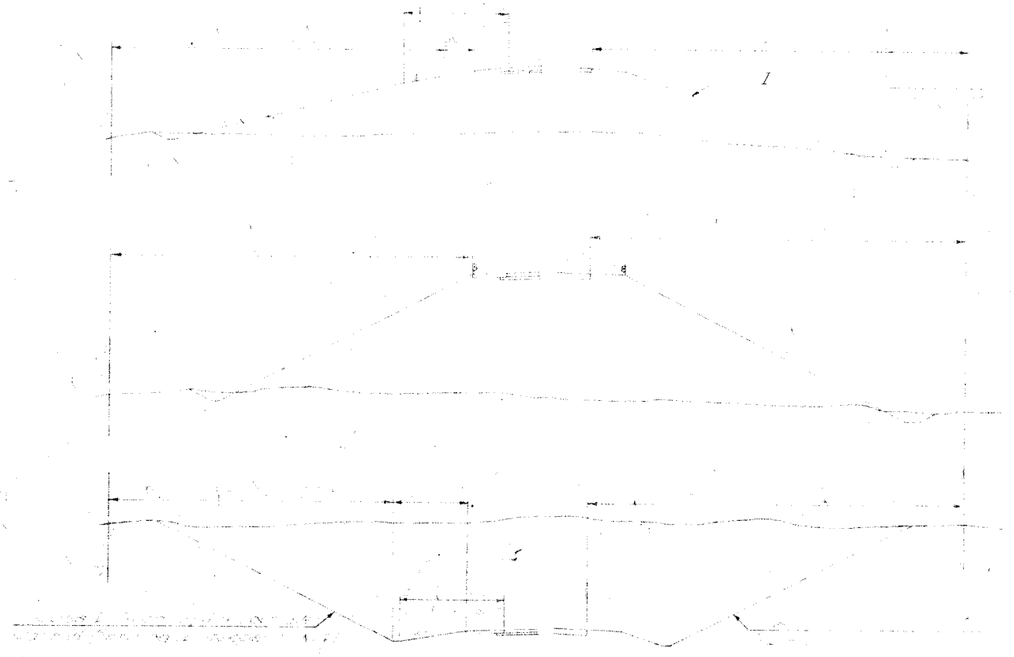
EARTH CONE TREATMENT DETAIL

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	*	McLEAN	64	8
* 57-2HB, 57-2BR, & 57-2B-2				
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



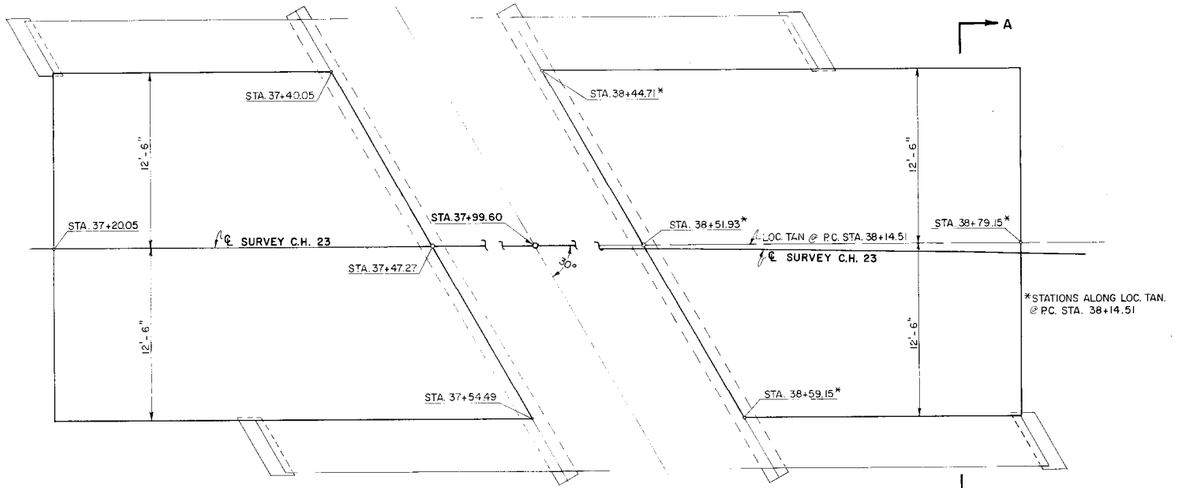
Use Class III Seeding on Bridge Cones
Use Class I or Class III Seeding on Roadway Sections





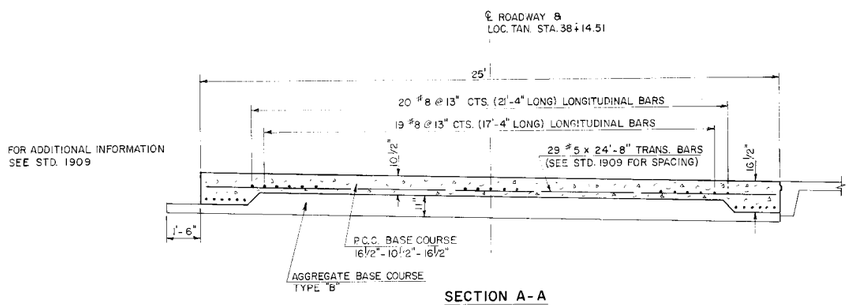
SEEDING DETAILS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	57-2HB 57-2BR	McLEAN	64	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



PLAN

SCALE: 1" = 50'



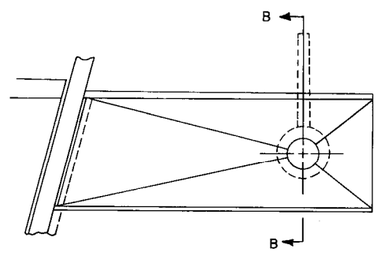
SECTION A-A

SCALE: 1" = 30'

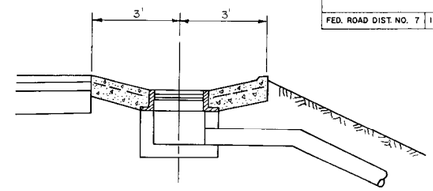
QUANTITIES FOR 25' WIDTH APPROACH SLAB STD. 1909

TRANSVERSE BARS 5 METHOD I		LONGITUDINAL BARS 8 METHOD I		TOTAL WEIGHT OF BARS	PAVEMENT 16½"-10½"-16½"
NO.	LENGTH	NO.	LENGTH	LBS.	SQ. YDS.
29	28'-4"	32 19	21'-4" 17'-4"	3560	76

DETAILS - 25' WIDTH APPROACH SLAB



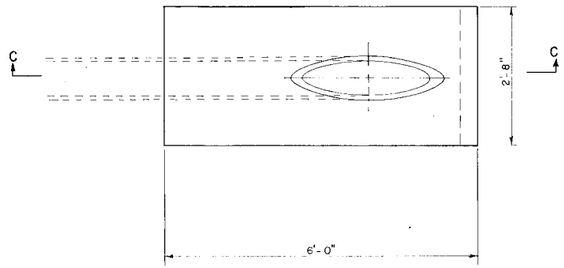
PLAN



SECTION B-B

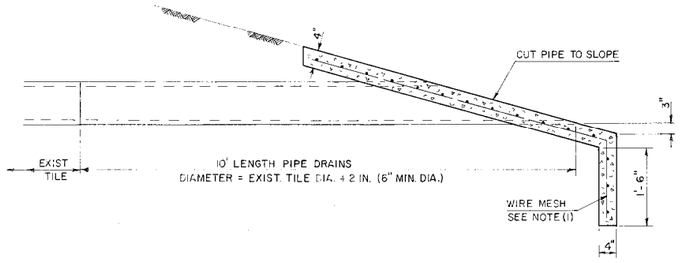
SEE SHEETS 48 & 49 FOR ELEVATIONS AND PIPE DETAILS. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH STD. 2324 UNLESS NOTED OTHERWISE ON THIS DETAIL.

BRIDGE APPROACH SHOULDER PAVEMENT

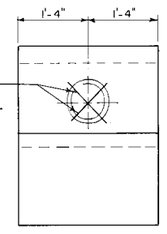


PLAN

NOTE:
(1) COST OF FURNISHING & INSTALLING WIRE MESH SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CLASS 'X' CONCRETE. WIRE MESH TO WEIGH NOT LESS THAN 58 LBS. PER 100 SQ. FT.



SECTION C-C



END VIEW

DETAIL - SPECIAL FIELD TILE HEADWALL

SCALE: 3/4" = 1'-0"

DETAILS – FIELD TILE HEADWALL & APPROACH SLABS

B.M.: #43A R.R. Spike in Fence Corner 530' Rt. Sta 717+25 Elev. 717.03

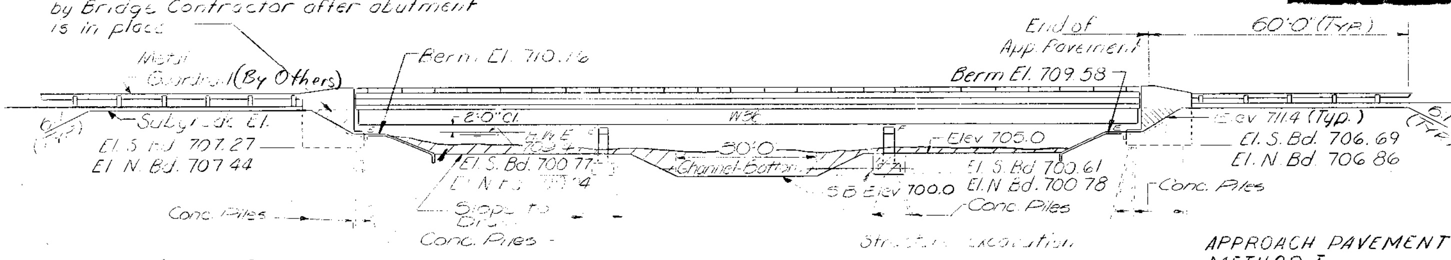
STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

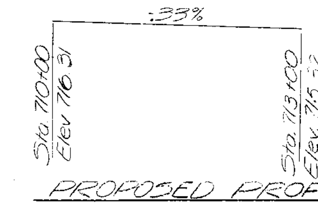
SHEET NO. 1
17 SHEETS

This portion of Embankment backfill by Bridge Contractor after abutment is in place

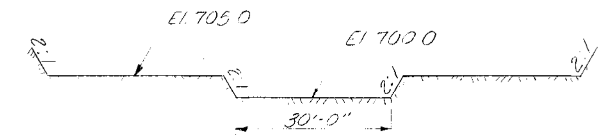


ELEVATION

APPROACH PAVEMENT METHOD I



PROPOSED PROFILE
FAI RTE 55
(at median edge)
Top 1½" Class I Surfacing & Waterproofing



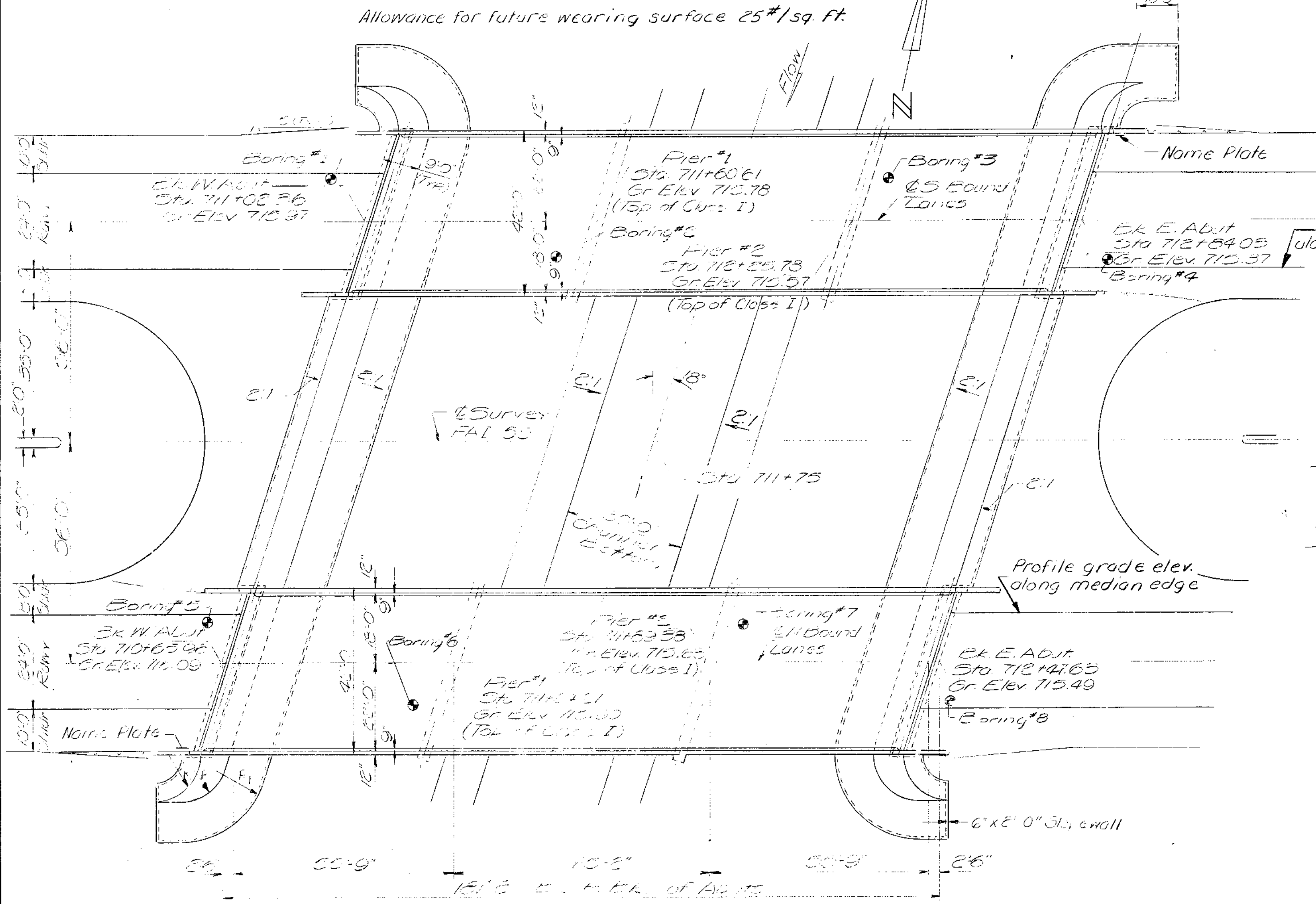
PROPOSED CHANNEL

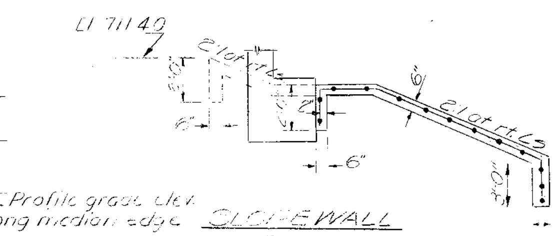
DESIGN STRESSES

fc = 1200 p.s.i. Super
fc = 1400 p.s.i. Conc. Parapet & Sub
fs = 20000 p.s.i. Struct. & Reinf.
vc = 75 p.s.i. Ftgs.
n = 10
Design Specifications: 1969 AASHO (or applicable)
LOADING HS 20-44 & ALT.
Allowance for future wearing surface 25#/sq. Ft.

WATERWAY INFORMATION

Drainage Area	17280 Acres
Character	Cultivated, Pasture
Road Opening	812 Sq. Ft.
Proposed Opening	812 Sq. Ft.
Q(50)	4060 cfs
Low water Elevation	700.5

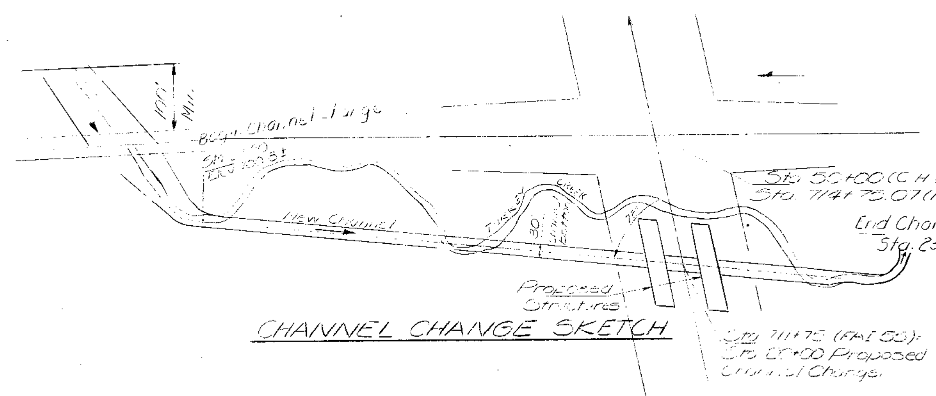




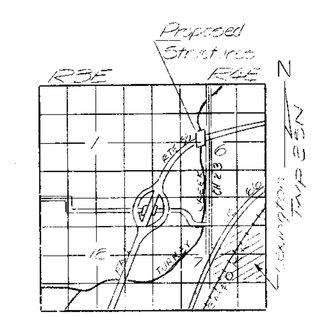
SLOPEWALL DETAILS

STATION 711+75
BUILT BY
STATE OF ILLINOIS
FAI RT. 55 SEC. 57-2B-2
FA PROJ. I-55-5 (36)
LOADING HS20 & ALT.

NAME PLATE
See Std 2113



CHANNEL CHANGE SKETCH



LOCATION SKETCH

N. Abut
R = 12'-0"
R1 = 22'-3"

E. Abut
R = 12'-0"
R1 = 21'-5"

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — CHIEF HIGHWAY ENGINEER

PROJ. I-55-5 (36) 177
GENERAL PLAN & ELEVATION
FAI RTE. 55 over TURKEY CR.
FAI RTE 55 SEC. 57-2B-2
McLEAN COUNTY
STA 711+75

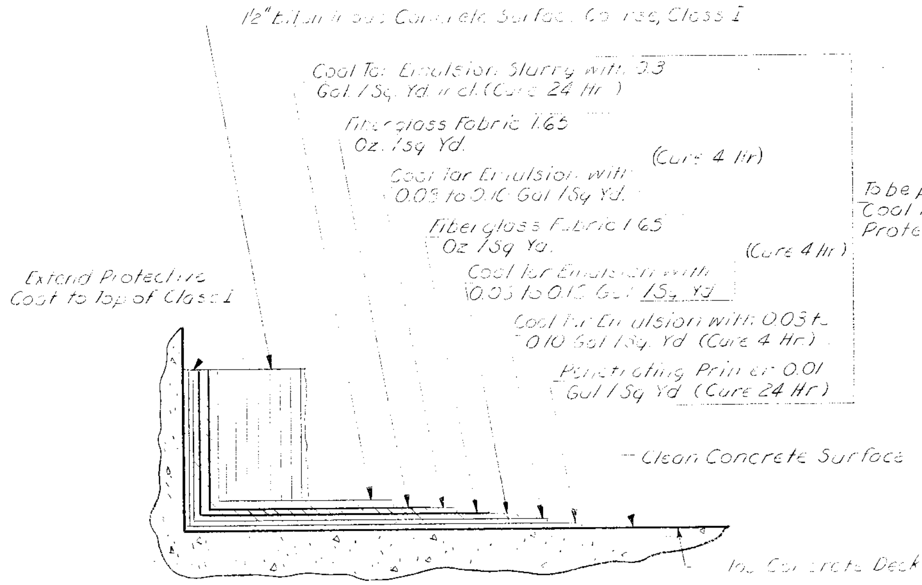
K&E CO. 19-1253

STATE OF ILLINOIS

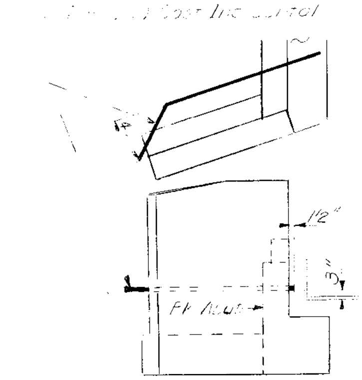
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
17 SHEETS



DETAIL OF DECK SURFACING
(BY PAVING CONTRACTOR)



ELECTRICAL CONDUIT LOCATION

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts ¾" Ø; open holes 13/16" Ø, unless otherwise noted.

The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

Protective coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.

The Contractor shall drive four Concrete test piles in permanent locations, one each at E. Abut. and Pier 1 of South Bd. Lanes; W. Abut. and Pier 2 of North Bd. Lanes as directed by the Engineer before ordering the remainder of piles.

Calculated weight of Structural Steel 407600 lbs.

Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

TOTAL BILL OF MATERIAL

	Item	Unit	Super	Sub	Total
*	Bituminous Concrete Surface Course, Class I	Tons	126		126
*	Coal Tar Interlayer Protective Coat	Sq. Yds.	1,524		1,524
*	Protective Coat	Sq. Yds.	310		310
	[illegible] Concrete	Cu. Yds.	467.7	184.2	651.9
	Class A Concrete	Cu. Yds.		175.2	175.2
	Structural Steel	L.S.	1		1
	Aluminum Railing	Lin. Ft.	713		713
	Reinforcement Bars	Lbs.	108020	23940	131960
	Concrete Piles	Lin. Ft.		2633	2633
	Test Piles Concrete	Each		4	4
	Name Plates	Each		2	2
	Preformed Jt. Sealer	Lin. Ft.	88		88
	Slope Wall (6")	Sq. Yds.		1136	1136
	Structure Excavation	Cu. Yds.		337	337
	Preformed Jt. Sealer	Lin. Ft.	88		88

* By Paving Contractor

DESIGNED	D. R. P.
CHECKED	A. J. K.
DRAWN	Bev Robinson
CHECKED	A. J. K.

May 25 1971
EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — CHIEF HIGHWAY ENGINEER

GENERAL DETAILS
FAI RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

Rev. 10-12-72

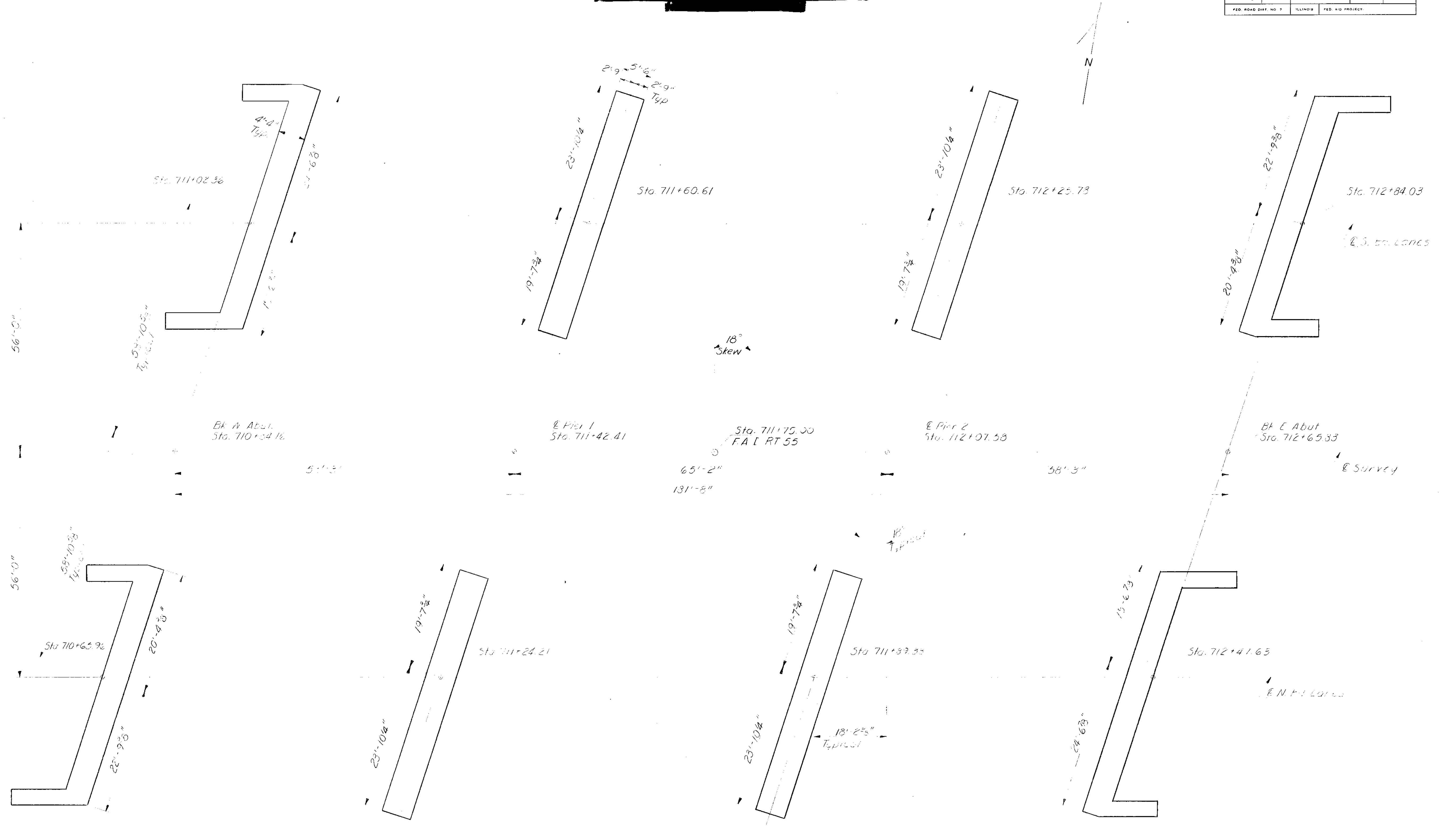
K&E CO 19-1253

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
17 SHEETS



FOOTING LAYOUT

DESIGNED	D. N. R.
CHECKED	A. H. K.
DRAWN	Bev Robinson
CHECKED	A. H. K.

EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED — ENGINEER OF DESIGN

APPROVED — CHIEF HIGHWAY ENGINEER

FOOTING LAYOUT
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

K&E CO. 10-1253

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	69	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 13 OF 17 SHEETS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71108.899	-20.125	715.784	715.784
℄ Brg. W. Abut	71111.399	-20.125	715.776	715.776
A	71121.399	-20.125	715.743	715.757
B	71131.399	-20.125	715.710	715.732
C	71141.399	-20.125	715.677	715.700
D	71151.399	-20.125	715.644	715.668
E	71161.399	-20.125	715.611	715.636
℄ Brg. Pier 1	71167.149	-20.125	715.592	715.592
F	71177.149	-20.125	715.559	715.565
G	71187.149	-20.125	715.526	715.538
H	71197.149	-20.125	715.493	715.510
I	71207.149	-20.125	715.460	715.474
J	71217.149	-20.125	715.427	715.436
K	71227.149	-20.125	715.394	715.397
℄ Brg. Pier 2	71232.316	-20.125	715.377	715.377
L	71242.316	-20.125	715.344	715.353
M	71252.316	-20.125	715.311	715.328
N	71262.316	-20.125	715.278	715.302
O	71272.316	-20.125	715.245	715.265
P	71282.316	-20.125	715.212	715.220
℄ Brg. E. Abut.	71288.066	-20.125	715.193	715.193
Bk. E. Abut	71290.566	-20.125	715.185	715.185

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71106.543	-12.875	715.943	715.943
℄ Brg. W. Abut.	71109.043	-12.875	715.934	715.934
A	71119.043	-12.875	715.901	715.916
B	71129.043	-12.875	715.868	715.899
C	71139.043	-12.875	715.835	715.868
D	71149.043	-12.875	715.802	715.816
E	71159.043	-12.875	715.769	715.775
℄ Brg. Pier 1	71164.793	-12.875	715.750	715.750
F	71174.793	-12.875	715.717	715.723
G	71184.793	-12.875	715.684	715.699
H	71194.793	-12.875	715.651	715.668
I	71204.793	-12.875	715.618	715.633
J	71214.793	-12.875	715.585	715.594
K	71224.793	-12.875	715.552	715.556
℄ Brg. Pier 2	71229.960	-12.875	715.535	715.535
L	71239.960	-12.875	715.502	715.511
M	71249.960	-12.875	715.469	715.487
N	71259.960	-12.875	715.436	715.460
O	71269.960	-12.875	715.403	715.424
P	71279.960	-12.875	715.370	715.379
℄ Brg. E. Abut.	71285.710	-12.875	715.351	715.351
Bk. E. Abut.	71288.210	-12.875	715.343	715.343

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71104.188	-5.625	716.068	716.068
℄ Brg. W. Abut.	71106.688	-5.625	716.060	716.060
A	71116.688	-5.625	716.027	716.041
B	71126.688	-5.625	715.994	716.016
C	71136.688	-5.625	715.961	715.984
D	71146.688	-5.625	715.928	715.942
E	71156.688	-5.625	715.895	715.900
℄ Brg. Pier 1	71162.438	-5.625	715.876	715.876
F	71172.438	-5.625	715.843	715.849
G	71182.438	-5.625	715.810	715.822
H	71192.438	-5.625	715.777	715.794
I	71202.438	-5.625	715.744	715.758
J	71212.438	-5.625	715.711	715.720
K	71222.438	-5.625	715.678	715.681
℄ Brg. Pier 2	71227.604	-5.625	715.661	715.661
L	71237.604	-5.625	715.628	715.637
M	71247.604	-5.625	715.595	715.613
N	71257.604	-5.625	715.562	715.586
O	71267.604	-5.625	715.529	715.550
P	71277.604	-5.625	715.496	715.504
℄ Brg. E. Abut	71283.354	-5.625	715.477	715.477
Bk. E. Abut.	71285.854	-5.625	715.469	715.469

℄ ROADWAY

Bk. W. Abut.	71102.360	0.0	716.162	716.162
℄ Brg. W. Abut.	71104.860	0.0	716.154	716.154
A	71114.860	0.0	716.121	716.135
B	71124.860	0.0	716.088	716.110
C	71134.860	0.0	716.055	716.078
D	71144.860	0.0	716.022	716.036
E	71154.860	0.0	715.989	715.994
℄ Brg. Pier 1	71160.610	0.0	715.970	715.970
F	71170.610	0.0	715.937	715.943
G	71180.610	0.0	715.904	715.916
H	71190.610	0.0	715.871	715.888
I	71200.610	0.0	715.838	715.852
J	71210.610	0.0	715.805	715.814
K	71220.610	0.0	715.772	715.775
℄ Brg. Pier 2	71225.777	0.0	715.755	715.755
L	71235.777	0.0	715.722	715.731
M	71245.777	0.0	715.689	715.707
N	71255.777	0.0	715.656	715.680
O	71265.777	0.0	715.623	715.644
P	71275.777	0.0	715.590	715.598
℄ Brg. E. Abut.	71281.527	0.0	715.571	715.571
Bk. E. Abut.	71284.027	0.0	715.563	715.563

BEAM 4

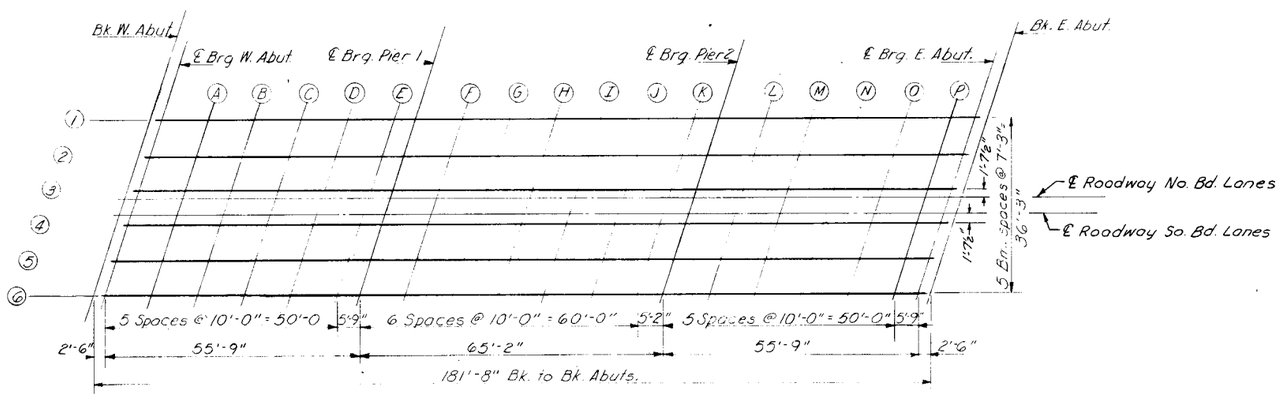
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71101.832	1.625	716.139	716.139
℄ Brg. W. Abut.	71104.332	1.625	716.130	716.130
A	71114.332	1.625	716.097	716.112
B	71124.332	1.625	716.064	716.086
C	71134.332	1.625	716.031	716.054
D	71144.332	1.625	715.998	716.012
E	71154.332	1.625	715.965	715.970
℄ Brg. Pier 1	71160.082	1.625	715.946	715.946
F	71170.082	1.625	715.913	715.919
G	71180.082	1.625	715.880	715.892
H	71190.082	1.625	715.847	715.864
I	71200.082	1.625	715.814	715.829
J	71210.082	1.625	715.781	715.790
K	71220.082	1.625	715.748	715.751
℄ Brg. Pier 2	71225.249	1.625	715.731	715.731
L	71235.249	1.625	715.698	715.707
M	71245.249	1.625	715.665	715.683
N	71255.249	1.625	715.632	715.656
O	71265.249	1.625	715.599	715.620
P	71275.249	1.625	715.566	715.575
℄ Brg. E. Abut.	71280.999	1.625	715.547	715.547
Bk. E. Abut.	71283.499	1.625	715.539	715.539

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71099.476	8.875	716.033	716.033
℄ Brg. W. Abut.	71101.976	8.875	716.025	716.025
A	71111.976	8.875	715.992	716.006
B	71121.976	8.875	715.959	715.981
C	71131.976	8.875	715.926	715.948
D	71141.976	8.875	715.893	715.907
E	71151.976	8.875	715.860	715.865
℄ Brg. Pier 1	71157.726	8.875	715.841	715.841
F	71167.726	8.875	715.808	715.814
G	71177.726	8.875	715.775	715.786
H	71187.726	8.875	715.742	715.759
I	71197.726	8.875	715.709	715.723
J	71207.726	8.875	715.676	715.685
K	71217.726	8.875	715.643	715.646
℄ Brg. Pier 2	71222.893	8.875	715.626	715.626
L	71232.893	8.875	715.593	715.632
M	71242.893	8.875	715.560	715.577
N	71252.893	8.875	715.527	715.551
O	71262.893	8.875	715.494	715.514
P	71272.893	8.875	715.461	715.469
℄ Brg. E. Abut.	71278.643	8.875	715.442	715.442
Bk. E. Abut	71281.143	8.875	715.434	715.434

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71097.121	16.125	715.906	715.906
℄ Brg. W. Abut.	71099.621	16.125	715.898	715.898
A	71109.621	16.125	715.865	715.879
B	71119.621	16.125	715.832	715.854
C	71129.621	16.125	715.799	715.822
D	71139.621	16.125	715.766	715.780
E	71149.621	16.125	715.733	715.738
℄ Brg. Pier 1	71155.371	16.125	715.714	715.714
F	71165.371	16.125	715.681	715.687
G	71175.371	16.125	715.648	715.660
H	71185.371	16.125	715.615	715.632
I	71195.371	16.125	715.582	715.596
J	71205.371	16.125	715.549	715.558
K	71215.371	16.125	715.516	715.519
℄ Brg. Pier 2	71220.537	16.125	715.499	715.499
L	71230.537	16.125	715.466	715.475
M	71240.537	16.125	715.433	715.451
N	71250.537	16.125	715.400	715.424
O	71260.537	16.125	715.367	715.388
P	71270.537	16.125	715.334	715.342
℄ Brg. E. Abut.	71276.287	16.125	715.315	715.315
Bk. E. Abut	71278.787	16.125	715.307	715.307



PLAN

DESIGNED	
CHECKED	
DRAWN BKR	
CHECKED	

19

EXAMINED

END. SUPT. OF BRIDGE AND STRUCT. STRUCT. ENGR.

PASSED

APPROVED

CHIEF ILLINOIS ENGINEER

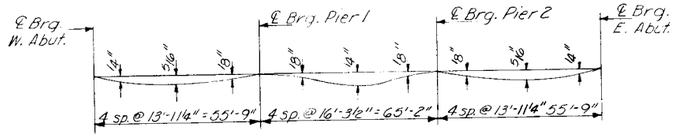
SOUTH BOUND LANES
TOP OF CLASS I ELEVATIONS
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B 2	McLEAN	69	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

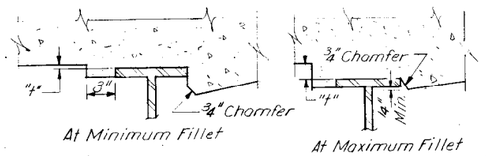
SHEET NO. 17 SHEETS



DEAD LOAD DEFLECTION DIAGRAM

(Includes wright of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



To determine "f" After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below minus 8" slab thickness, minus 1½" Class I equals the fillet heights "f" above top flange of beams.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71071.199	-16.125	715.992	715.992
℄ Brg. W. Abut.	71073.699	-16.125	715.983	715.983
A	71083.699	-16.125	715.956	715.965
B	71093.699	-16.125	715.917	715.930
C	71103.699	-16.125	715.884	715.907
D	71113.699	-16.125	715.851	715.865
E	71123.699	-16.125	715.818	715.824
℄ Brg. Pier 1	71129.449	-16.125	715.806	715.806
F	71139.449	-16.125	715.767	715.772
G	71149.449	-16.125	715.734	715.746
H	71159.449	-16.125	715.731	715.717
I	71169.449	-16.125	715.668	715.689
J	71179.449	-16.125	715.635	715.644
K	71189.449	-16.125	715.602	715.606
℄ Brg. Pier 2	71194.616	-16.125	715.584	715.584
L	71204.616	-16.125	715.551	715.560
M	71214.616	-16.125	715.518	715.536
N	71224.616	-16.125	715.485	715.509
O	71234.616	-16.125	715.452	715.473
P	71244.616	-16.125	715.419	715.428
℄ Brg. E. Abut	71250.366	-16.125	715.403	715.400
Bk. E. Abut.	71252.866	-16.125	715.392	715.392

BEAM 2

Bk. W. Abut.	71068.844	-8.875	716.134	716.134
℄ Brg. W. Abut.	71071.344	-8.875	716.125	716.126
A	71081.344	-8.875	716.093	716.107
B	71091.344	-8.875	716.060	716.082
C	71101.344	-8.875	716.027	716.050
D	71111.344	-8.875	715.994	716.008
E	71121.344	-8.875	715.961	715.956
℄ Brg. Pier 1	71127.094	-8.875	715.942	715.942
F	71137.094	-8.875	715.909	715.915
G	71147.094	-8.875	715.876	715.888
H	71157.094	-8.875	715.843	715.860
I	71167.094	-8.875	715.810	715.824
J	71177.094	-8.875	715.777	715.796
K	71187.094	-8.875	715.744	715.747
℄ Brg. Pier 2	71192.260	-8.875	715.727	715.727
L	71202.260	-8.875	715.694	715.703
M	71212.260	-8.875	715.661	715.678
N	71222.260	-8.875	715.628	715.652
O	71232.260	-8.875	715.595	715.615
P	71242.260	-8.875	715.562	715.570
℄ Brg. E. Abut.	71248.010	-8.875	715.543	715.543
Bk. E. Abut	71250.510	-8.875	715.535	715.535

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	71066.488	-1.625	716.255	716.255
℄ Brg. W. Abut.	71068.988	-1.625	716.247	716.247
A	71078.988	-1.625	716.214	716.228
B	71088.988	-1.625	716.181	716.203
C	71098.988	-1.625	716.148	716.171
D	71108.988	-1.625	716.115	716.129
E	71118.988	-1.625	716.082	716.087
℄ Brg. Pier 1	71124.738	-1.625	716.063	716.063
F	71134.738	-1.625	716.030	716.036
G	71144.738	-1.625	715.997	716.009
H	71154.738	-1.625	715.964	715.981
I	71164.738	-1.625	715.931	715.945
J	71174.738	-1.625	715.898	715.907
K	71184.738	-1.625	715.865	715.868
℄ Brg. Pier 2	71189.905	-1.625	715.848	715.848
L	71199.905	-1.625	715.815	715.824
M	71209.905	-1.625	715.782	715.800
N	71219.905	-1.625	715.749	715.773
O	71229.905	-1.625	715.716	715.737
P	71239.905	-1.625	715.683	715.691
℄ Brg. E. Abut	71245.655	-1.625	715.664	715.664
Bk. E. Abut.	71248.155	-1.625	715.656	715.656

℄ ROADWAY

Bk. W. Abut.	71065.960	0.0	716.282	716.282
℄ Brg. W. Abut.	71068.460	0.0	716.274	716.274
A	71078.460	0.0	716.241	716.255
B	71088.460	0.0	716.208	716.230
C	71098.460	0.0	716.175	716.198
D	71108.460	0.0	716.142	716.156
E	71118.460	0.0	716.108	716.114
℄ Brg. Pier 1	71124.210	0.0	716.090	716.090
F	71134.210	0.0	716.057	716.063
G	71144.210	0.0	716.024	716.036
H	71154.210	0.0	715.991	716.008
I	71164.210	0.0	715.958	715.972
J	71174.210	0.0	715.925	715.934
K	71184.210	0.0	715.892	715.895
℄ Brg. Pier 2	71189.377	0.0	715.875	715.875
L	71199.377	0.0	715.842	715.851
M	71209.377	0.0	715.809	715.827
N	71219.377	0.0	715.776	715.800
O	71229.377	0.0	715.743	715.764
P	71239.377	0.0	715.710	715.718
℄ Brg. E. Abut	71245.127	0.0	715.691	715.691
Bk. E. Abut.	71247.627	0.0	715.683	715.683

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71064.132	5.625	716.200	716.200
℄ Brg. W. Abut.	71066.632	5.625	716.192	716.192
A	71076.632	5.625	716.159	716.174
B	71086.632	5.625	716.126	716.148
C	71096.632	5.625	716.093	716.116
D	71106.632	5.625	716.060	716.074
E	71116.632	5.625	716.027	716.032
℄ Brg. Pier 1	71122.382	5.625	716.008	716.008
F	71132.382	5.625	715.975	715.981
G	71142.382	5.625	715.942	715.954
H	71152.382	5.625	715.909	715.926
I	71162.382	5.625	715.876	715.895
J	71172.382	5.625	715.843	715.852
K	71182.382	5.625	715.810	715.813
℄ Brg. Pier 2	71187.549	5.625	715.793	715.793
L	71197.549	5.625	715.760	715.749
M	71207.549	5.625	715.727	715.745
N	71217.549	5.625	715.694	715.718
O	71227.549	5.625	715.661	715.682
P	71237.549	5.625	715.628	715.636
℄ Brg E. Abut.	71243.299	5.625	715.609	715.609
Bk. E. Abut.	71245.799	5.625	715.601	715.601

BEAM 5

Bk. W. Abut.	71061.777	12.875	716.090	716.090
℄ Brg. W. Abut	71064.277	12.875	716.082	716.082
A	71074.277	12.875	716.049	716.064
B	71084.277	12.875	716.016	716.038
C	71094.277	12.875	715.983	716.006
D	71104.277	12.875	715.950	715.944
E	71114.277	12.875	715.917	715.922
℄ Brg. Pier 1	71120.027	12.875	715.898	715.898
F	71130.027	12.875	715.865	715.871
G	71140.027	12.875	715.832	715.844
H	71150.027	12.875	715.799	715.816
I	71160.027	12.875	715.766	715.791
J	71170.027	12.875	715.733	715.742
K	71180.027	12.875	715.700	715.703
℄ Brg. Pier 2	71185.193	12.875	715.683	715.683
L	71195.193	12.875	715.650	715.659
M	71205.193	12.875	715.617	715.635
N	71215.193	12.875	715.584	715.608
O	71225.193	12.875	715.551	715.572
P	71235.193	12.875	715.518	715.526
℄ Brg. E. Abut	71240.943	12.875	715.499	715.499
Bk. E. Abut.	71243.443	12.875	715.491	715.491

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	71059.421	20.125	715.947	715.947
℄ Brg. W. Abut.	71061.921	20.125	715.939	715.939
A	71071.921	20.125	715.906	715.921
B	71081.921	20.125	715.873	715.895
C	71091.921	20.125	715.840	715.863
D	71101.921	20.125	715.807	715.821
E	71111.921	20.125	715.774	715.779
℄ Brg. Pier 1	71117.671	20.125	715.755	715.755
F	71127.671	20.125	715.722	715.728
G	71137.671	20.125	715.689	715.701
H	71147.671	20.125	715.656	715.673
I	71157.671	20.125	715.623	715.638
J	71167.671	20.125	715.590	715.599
K	71177.671	20.125	715.557	715.560
℄ Brg. Pier 2	71182.838	20.125	715.540	715.540
L	71192.838	20.125	715.507	715.516
M	71202.838	20.125	715.474	715.492
N	71212.838	20.125	715.441	715.465
O	71222.838	20.125	715.408	715.429
P	71232.838	20.125	715.375	715.383
℄ Brg. E. Abut.	71238.588	20.125	715.356	715.356
Bk. E. Abut.	71241.088	20.125	715.348	715.348

For Plan see sheet #4

DESIGNED	
CHECKED	
DRAWN BKR	
CHECKED	

19 ...

EXAMINED ...
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED ...
ENGINEER OF DESIGN

APPROVED ...
CHIEF HIGHWAY ENGINEER

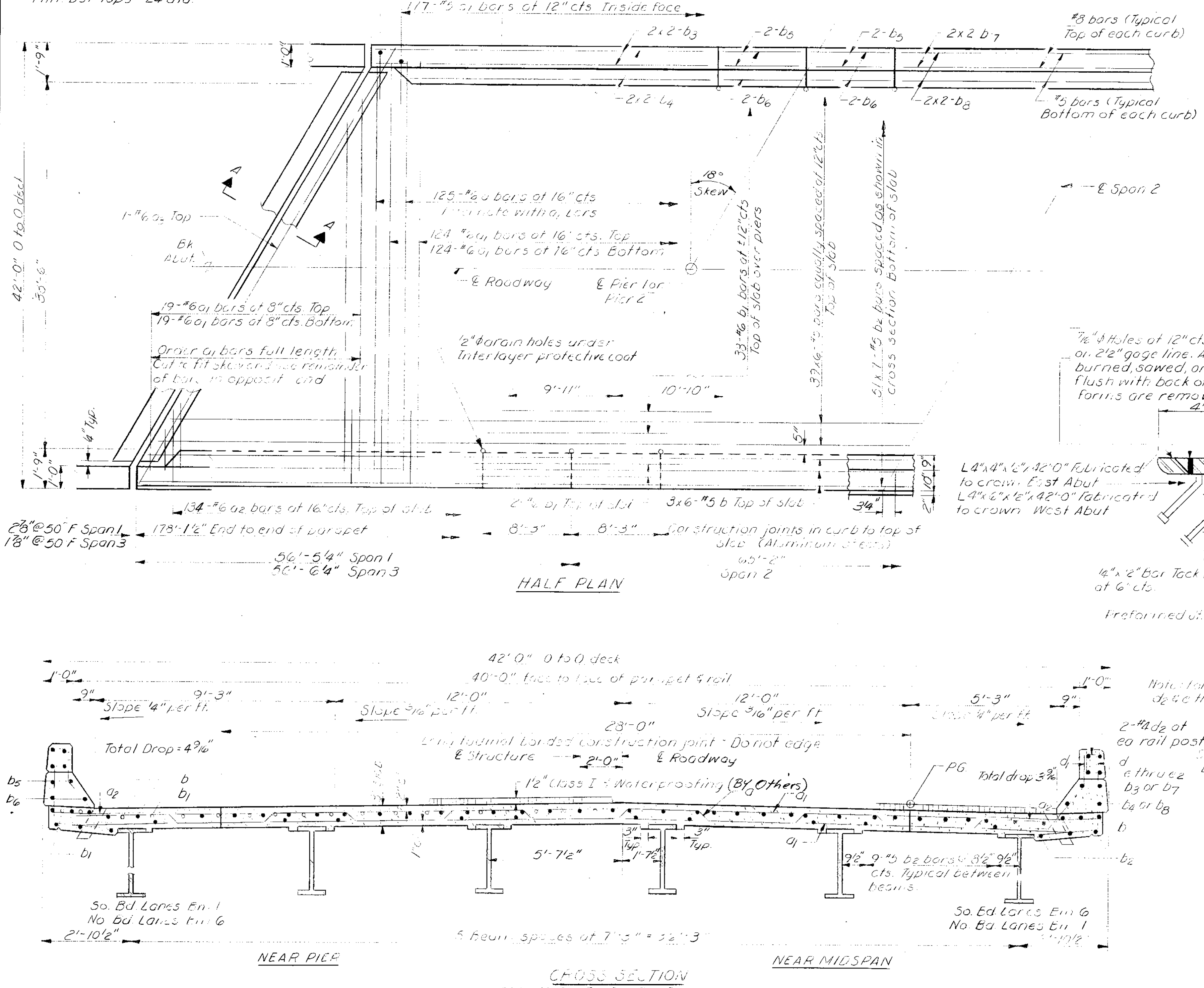
NORTH BOUND LANES
TOP OF CLASS I ELEVATIONS
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

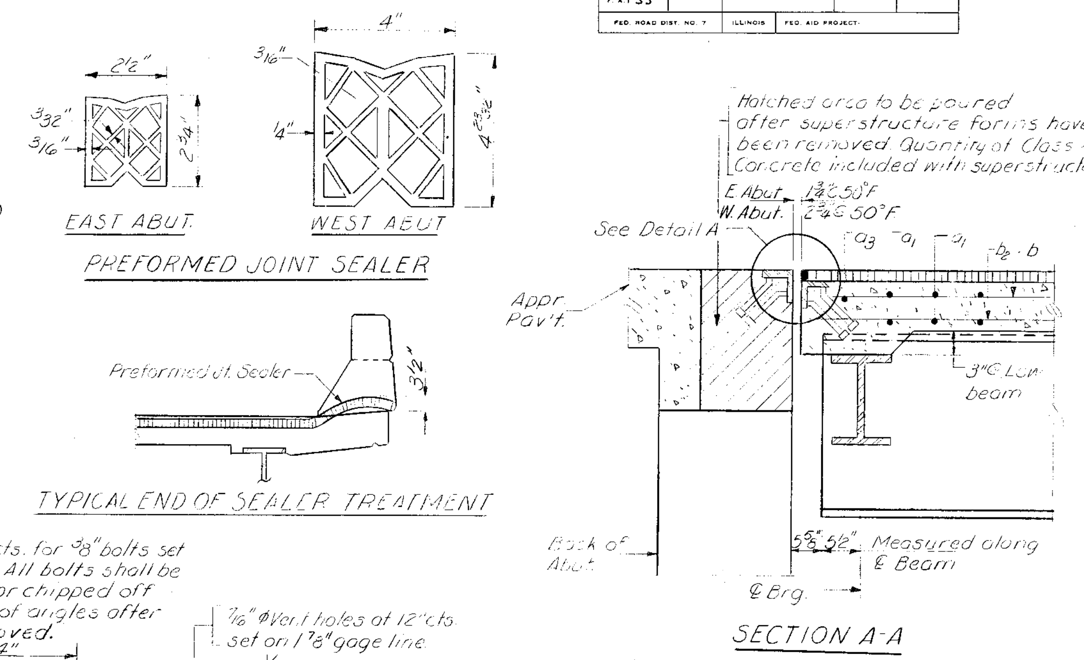
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

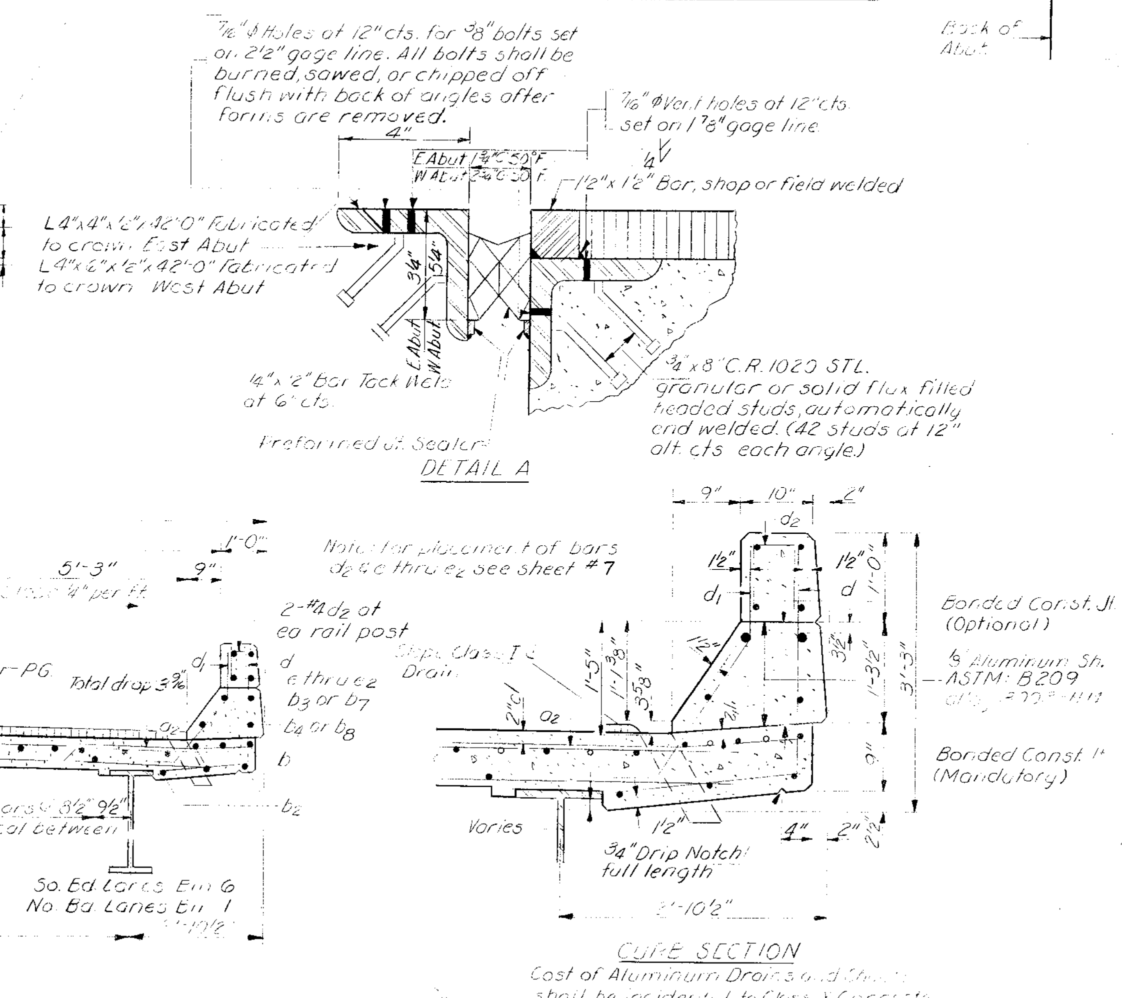
SHEET NO. 6
17 SHEETS

STATE OF ILLINOIS
[redacted]

Note:
Bars indicated thus 20 x 3-#5 cts indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 24 dia.

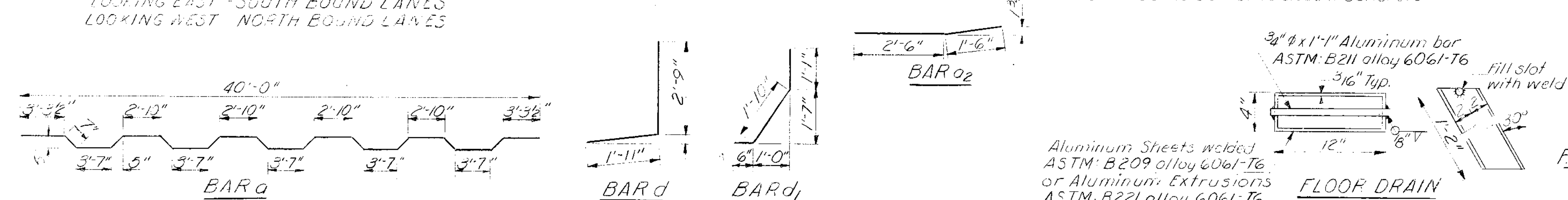






TWO STRUCTURES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	250	#6	41'-8"	
a1	572	#6	40'-0"	
a2	536	#6	4'-0"	
a3	4	#6	43'-6"	
b	540	#5	30'-9"	
b1	168	#6	20'-9"	
b2	714	#5	26'-6"	
b3	32	#8	25'-0"	
b4	32	#5	24'-9"	
b5	32	#8	8'-0"	
b6	32	#5	8'-0"	
b7	16	#8	25'-3"	
b8	16	#5	24'-10"	
d	716	#4	4'-8"	
d1	708	#5	3'-5"	
Reinforcement Bars			Lbs	105940
Class X Concrete			Cu. Yds	444.7



DESIGNED	D.A.D.
CHECKED	
DRAWN	Bev Robinson
CHECKED	A.Y.K.

EXAMINED: May 25 1971 — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED: W. G. Baumann — ENGINEER OF DESIGN
APPROVED: Richard H. Golterman — CHIEF HIGHWAY ENGINEER

SUPERSTRUCTURE
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

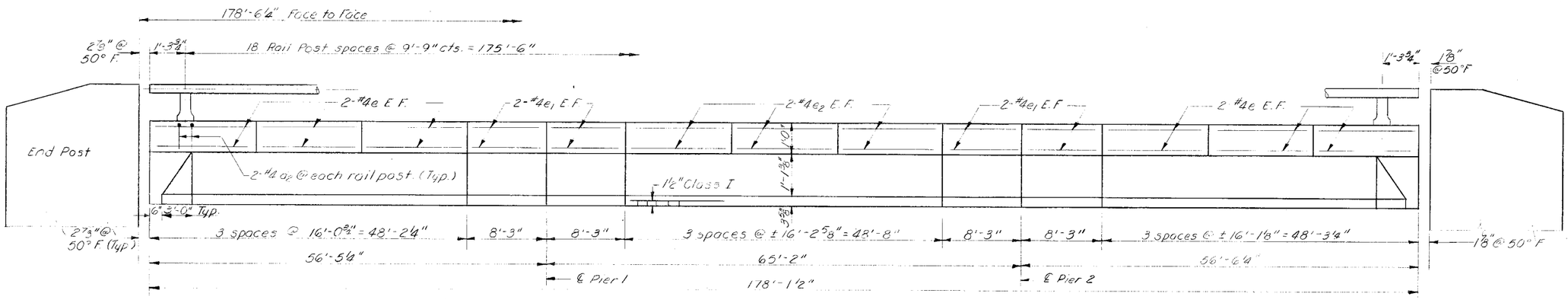
K&E CO. 19-1283

Revised 10-12-72

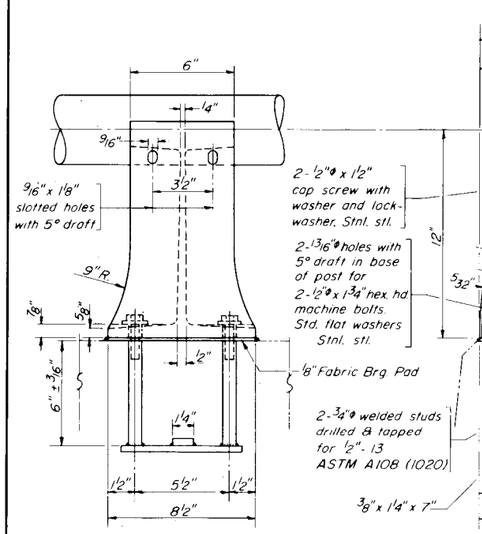
STATE OF ILLINOIS
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

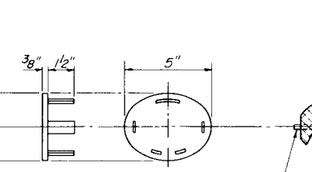
SHEET NO. 7
17 SHEETS



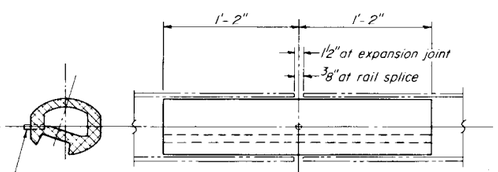
ELEVATION



RAIL POST DETAILS

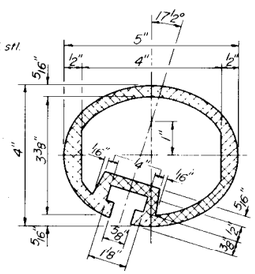


CAST END CAP
DRIVE FIT TYPE
8 Required

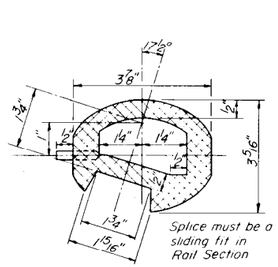


RAIL SPLICE

BAR d_2

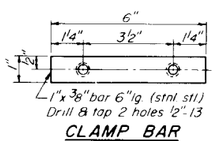


SEC. THRU ELLIPTICAL RAIL SECTION



Splice must be a sliding fit in Rail Section

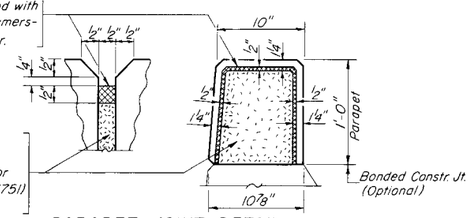
SEC. THRU SPLICE



CLAMP BAR

Two component non-staining gray sealing compound with polysulfide liquid polymers-gun grade with primer.

½" Preformed Cork Asphalt Joint Filler. (meets qualifications for ASTM: Designation D 1751) Cost incidental.



PARAPET JOINT DETAIL

NOTES:

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.

All joints in rail shall be spliced per detail.

Provide 1 - ⅛" and 2 - 1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B 221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min. tensile 38 ksi, and elongation of 10% in 2 inches.

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_2	152	#4	2'-1"	⊓
e	96	#4	13'-10"	——
e_1	64	#4	8'-0"	——
e_2	48	#4	16'-0"	——
Reinforcement Bars			Lbs.	2080
Class X Concrete			Cu. Yds.	23.0
Aluminum Railing			Lin. Ft.	713

ALUMINUM RAILING
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

DESIGNED	D. A. Ryan
CHECKED	J. L. K.
DRAWN	Bev Robinson
CHECKED	A. L. K.

EXAMINED May 25 1971
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED H. E. Sauerwein
ENGINEER OF DESIGN
APPROVED Richard H. Mattern
CHIEF HIGHWAY ENGINEER

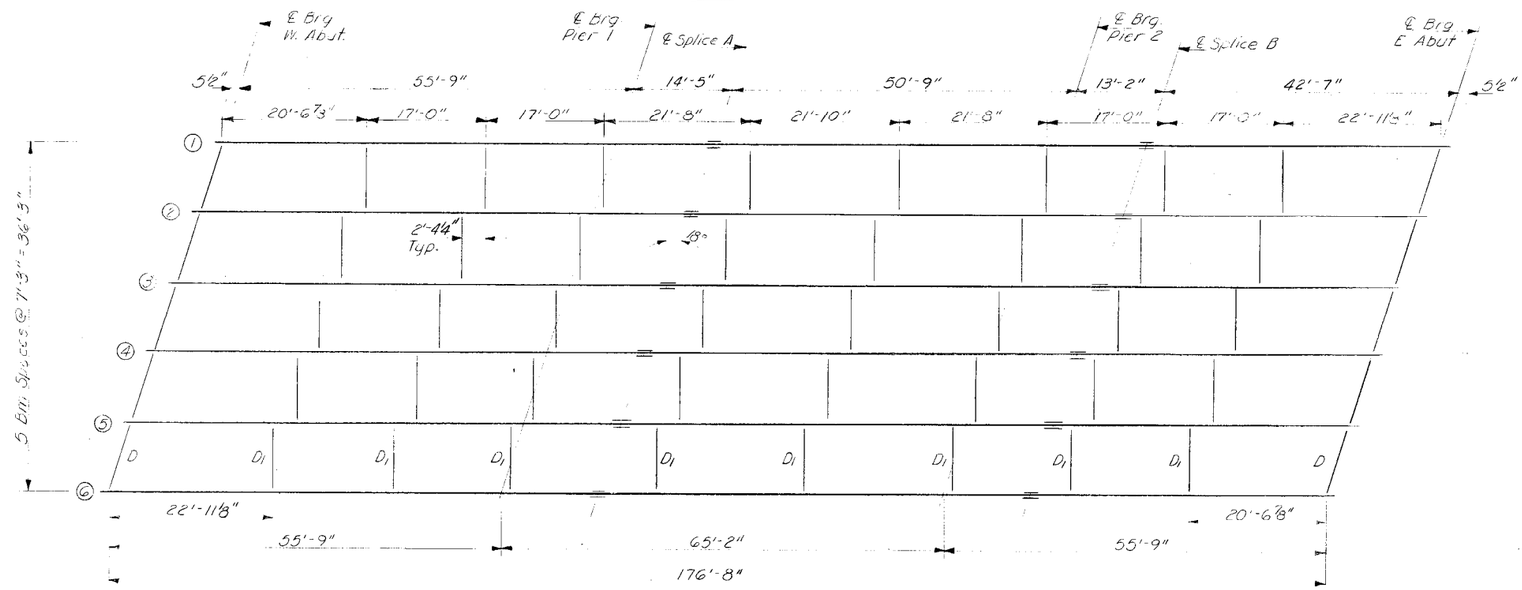
R-17 4-22-68 9-18-69

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
17 SHEETS



FRAMING PLAN
South Bound - North Bound
All Beams - W 36 x 160

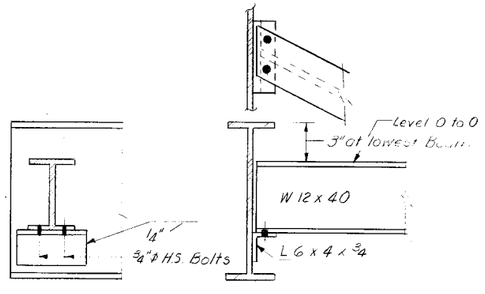
TOP OF BEAM ELEVATION
For Fabrication Only

SOUTH BOUND LANES

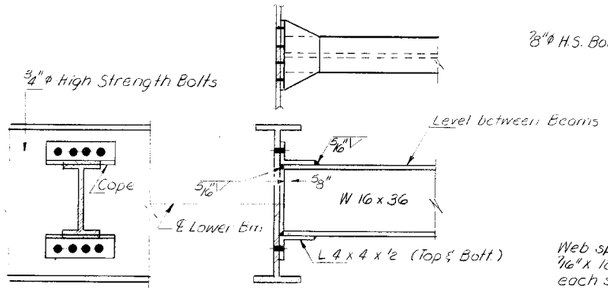
	Brn. 1	Brn. 2	Brn. 3	Brn. 4	Brn. 5	Brn. 6
℄ Brg. W. Abut.	714.91	715.07	715.20	715.27	715.16	715.04
℄ Brg. Pier 1	714.73	714.89	715.02	715.09	714.98	714.86
℄ Field Splice A	714.63	714.84	714.97	715.04	714.93	714.81
℄ Brg. Pier 2	714.51	714.67	714.80	714.87	714.76	714.64
℄ Field Splice B	714.47	714.63	714.76	714.83	714.72	714.60
℄ Brg. E Abut.	714.33	714.49	714.62	714.69	714.58	714.46

NORTH BOUND LANES

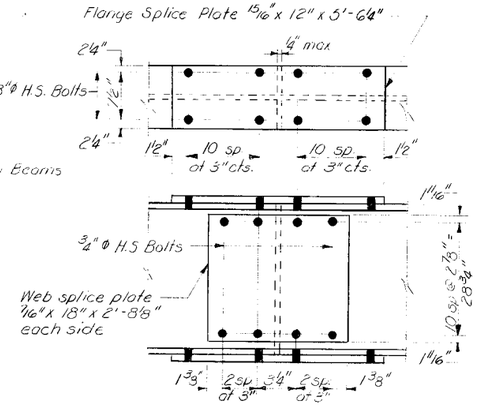
	Brn. 1	Brn. 2	Brn. 3	Brn. 4	Brn. 5	Brn. 6
℄ Brg. W. Abut.	715.12	715.26	715.35	714.33	715.22	715.08
℄ Brg. Pier 1	714.94	715.03	715.20	715.15	715.04	714.90
℄ Field Splice A	714.89	715.03	715.15	715.10	714.99	714.85
℄ Brg. Pier 2	714.72	714.86	714.98	714.93	714.82	714.63
℄ Field Splice B	714.68	714.82	714.94	714.89	714.73	714.64
℄ Brg. E Abut.	714.54	714.68	714.80	714.75	714.64	714.55



DIAPHRAGM D
20 Required



DIAPHRAGM D1
80 Required



SPLICE A or B

DESIGNED	[illegible]
CHECKED	A.Y.K
DRAWN	Bev Robinson
CHECKED	A.Y.K

EXAMINED May 25 19 11
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED W.E. Bauman
ENGINEER OF DESIGN

APPROVED Richard H. Gutterman
CHIEF HIGHWAY ENGINEER

STRUCTURAL STEEL
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

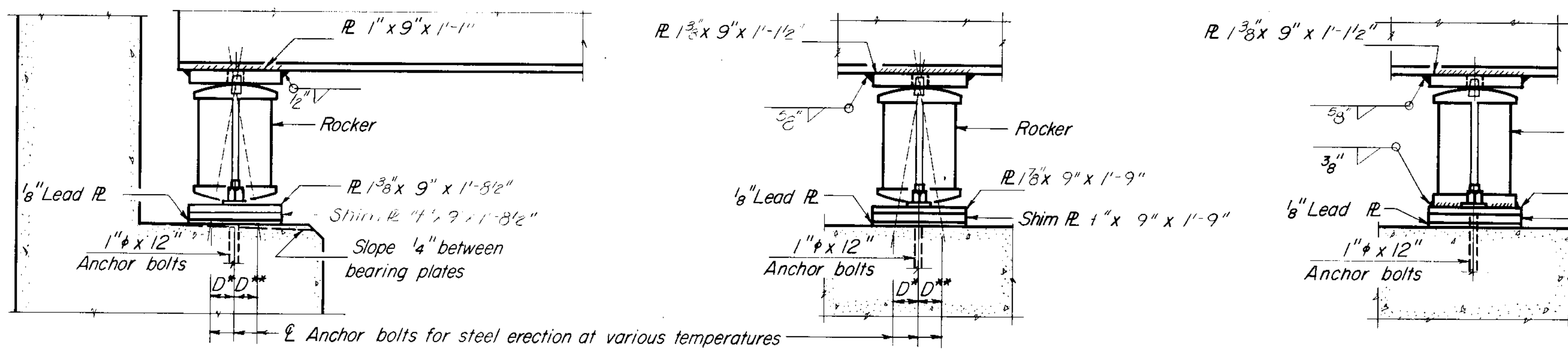
K & E CO. 19-1253

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	57-2B-2	McLEAN	64	18

SHEET NO. 9
17 SHEETS

STATE OF ILLINOIS
[redacted]

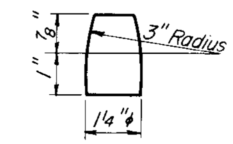
BEARING ASSEMBLY DETAILS



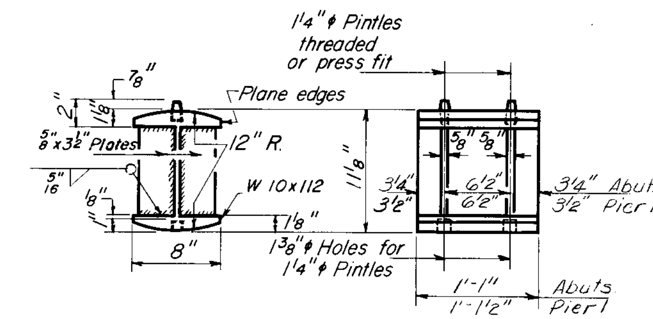
SECTION

ELEVATION

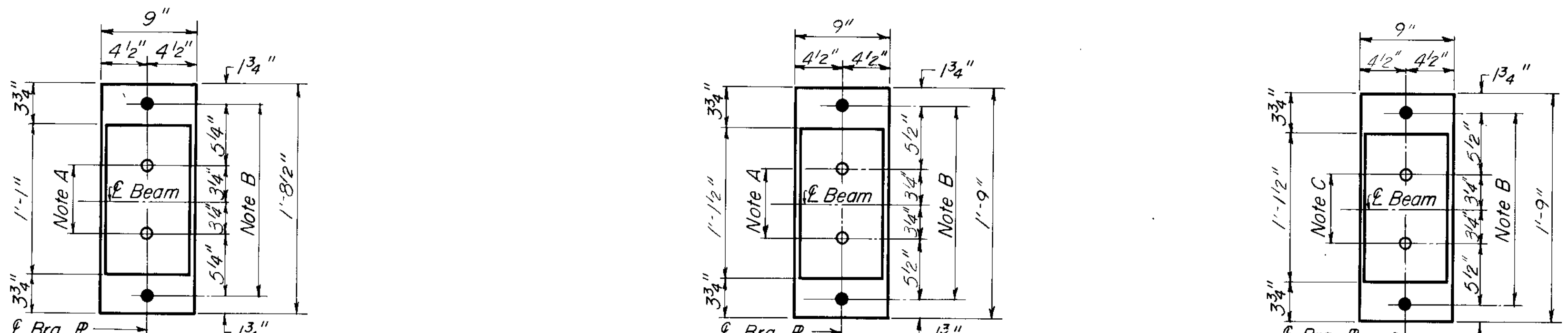
ELEVATION



PINTLE



ROCKER



PLAN AT ABUTMENT

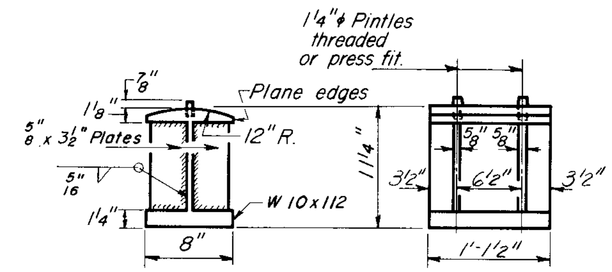
PLAN AT PIER 1

PLAN AT PIER 2

NOTE A
1 3/8" ϕ Holes - 1" deep in top PL for pintles. Thread or press fit pintles into bottom PL.

NOTE B
1 1/2" ϕ Holes for 1" ϕ anchor bolts. 5/16" x 2 1/2" x 2 1/2" PL. Washers under nut.

NOTE C
1 3/8" ϕ Holes 1" deep in top PL only for 1 1/4" ϕ pintles.



BOLSTER

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

a) D* (Side of brg. away from fixed brg.)
D* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
D** (Side of brg. toward fixed brg.)
D** = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50°F.

b) After beams have been erected and dimensions D* or D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

INTERIOR BEAM MOMENT TABLE

	℄ [illegible] 3	Pier 1 or 2	0.5 span 2
I (in.⁴)	9760	9760	9760
℄ (k/ft)	1.389	1.389	1.389
M ℄ ('k)	314	510	229
M ℄ ('k)	386	306	369
Imp. ('k)	107	82	97
M Total ('k)	807	898	6[illegible]
fs (ksi)	17.9	19.9	15.4

INTERIOR BEAM REACTION TABLE

	Abut	Pier
R ℄ (k)	29.6	93.2
R ℄ (k)	37.8	47.1
Imp. (k)	10.4	12.3
R Total (k)	77.8	153.4

SHIM PLATES "t" in inches
North Bound Lanes only

	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6
West Abut.	1/2	—	5/8	—	—	—
Pier 1	1/2	—	5/8	—	—	—
Pier 2	1/2	—	5/8	—	—	—
East Abut.	1/2	—	5/8	—	—	—

DESIGNED D. A. R.
CHECKED A. Y. K.
DRAWN P.G. Barnett BKR
CHECKED A. Y. K.

May 27 1971
EXAMINED [signature]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W. E. Baumann
ENGINEER OF DESIGN
APPROVED Richard H. Golterman
CHIEF HIGHWAY ENGINEER

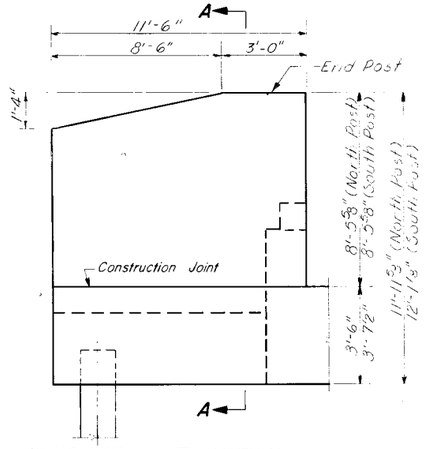
I-2-B 9-1-65, 8-1-70

STRUCTURAL STEEL
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711 + 75

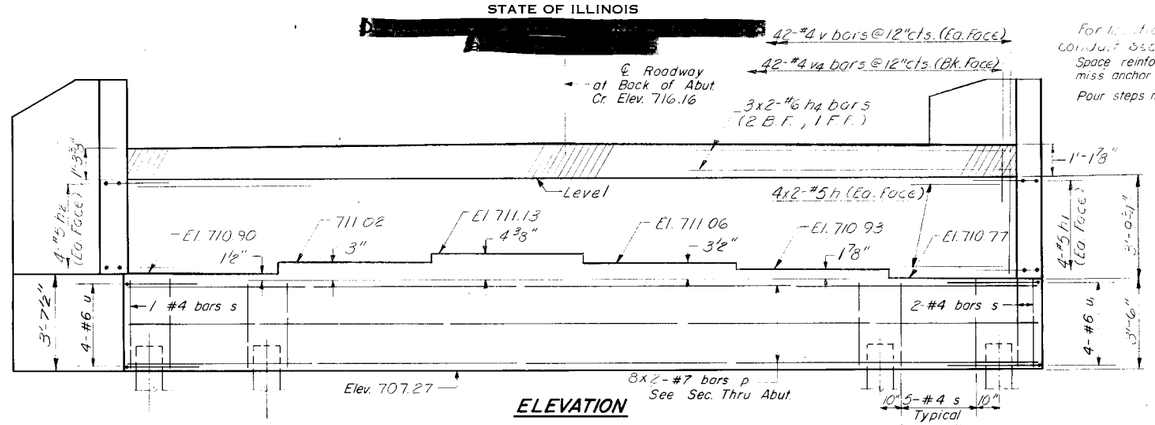
STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-26-2	McLEAN	64	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 10
17 SHEETS

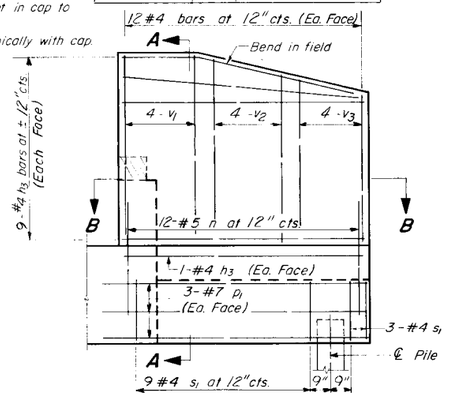


WING WALL ELEVATION

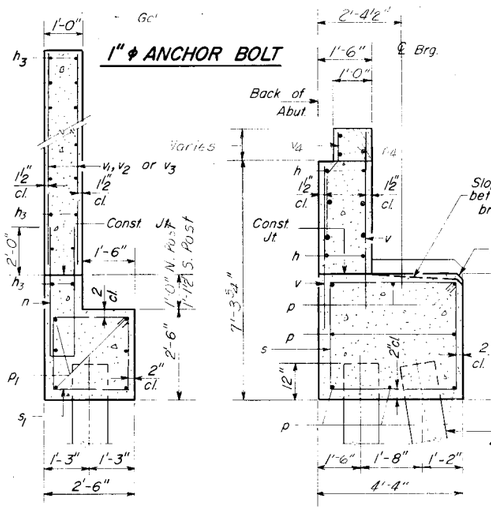


ELEVATION

For location of electrical conduit see sheet #2.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

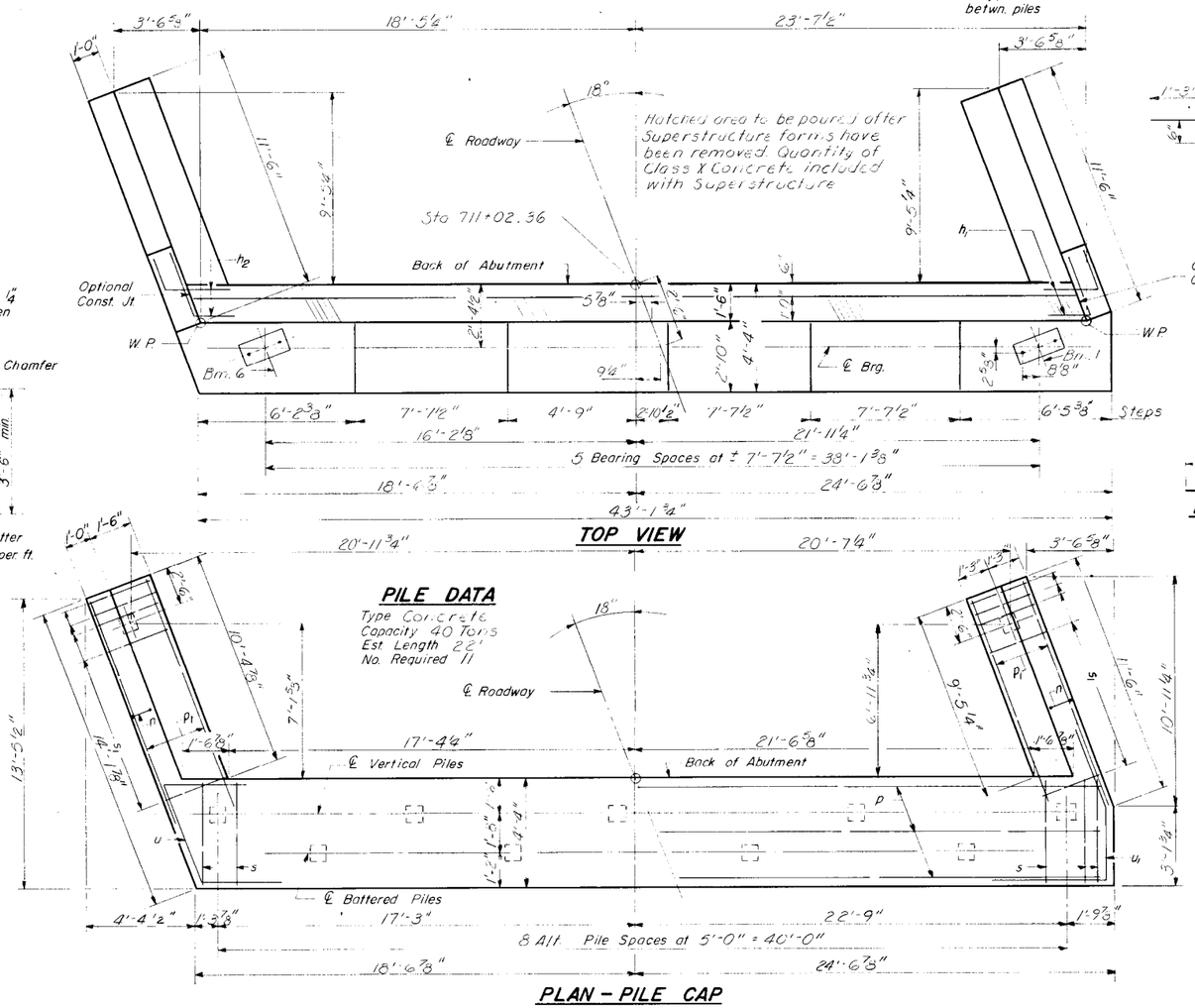


WING WALL ELEVATION
Reinforcement

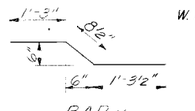


SEC. A-A

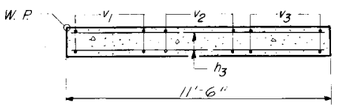
SEC. THRU ABUT.



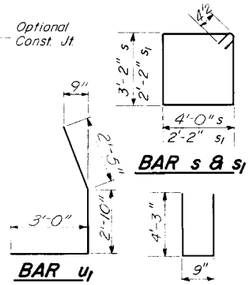
PILE DATA
Type Concrete
Capacity 40 Tons
Est. Length 22'
No. Required 11



BAR v4



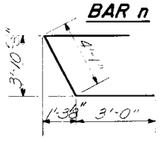
SEC. B-B



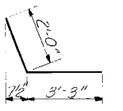
BAR u1

BAR s & s1

BAR n



BAR u



BAR h2

BAR h1

ONE ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	16	#5	21'-7"	—
h1	8	#5	5'-3"	L
h2	8	#5	5'-3"	L
h3	40	#4	11'-3"	—
h4	6	#6	21'-8"	—
n	24	#5	9'-3"	U
p	16	#7	23'-1"	—
P1	12	#7	11'-4"	—
s	43	#4	15'-1"	□
s1	24	#4	9'-5"	□
u	8	#6	10'-1"	⌐
u1	8	#6	8'-3"	⌐
v	84	#4	6'-3"	—
v1	16	#4	8'-3"	—
v2	16	#4	7'-7"	—
v3	16	#4	6'-11"	—
v4	42	#4	3'-3"	⌐
Class X Concrete		Cu. Yds.	46.3	
Reinforcement Bars		Lbs.	3700	
Concrete Piles		Lin. Ft.	242	

DESIGNED	D. J. D.
CHECKED	A. J. K.
DRAWN	Ben Robinson
CHECKED	A. J. K.

May 23, 1971
EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W. E. Bamm — ENGINEER OF DESIGN
APPROVED Richard H. Gratteman — CHIEF HIGHWAY ENGINEER

WEST ABUTMENT
SOUTH BOUND LANES
FAI RT. 55 SEC. 57-26-2
McLEAN COUNTY
STA. 711+75

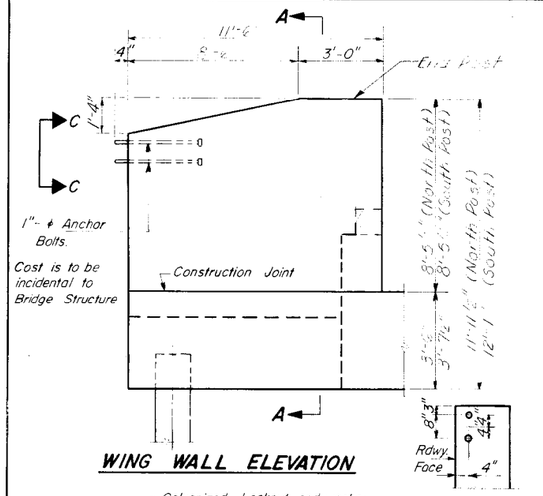
A-9-L (15°-34°) 2-1-66, 8-1-70

STATE OF ILLINOIS

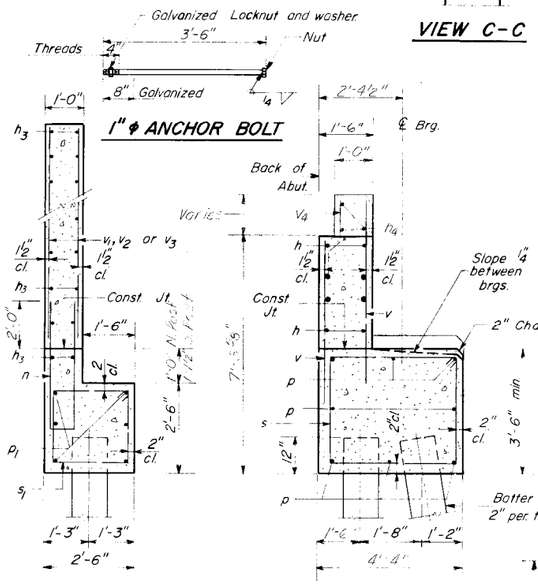
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	57-2B-2	McLEAN	64	20

SHEET NO. 11
11 SHEETS

WING WALL ELEVATION



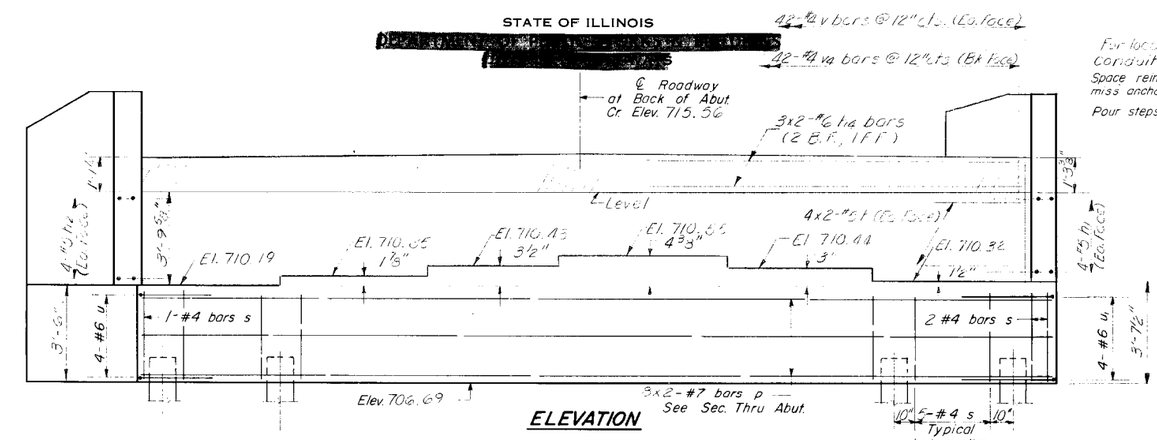
VIEW C-C



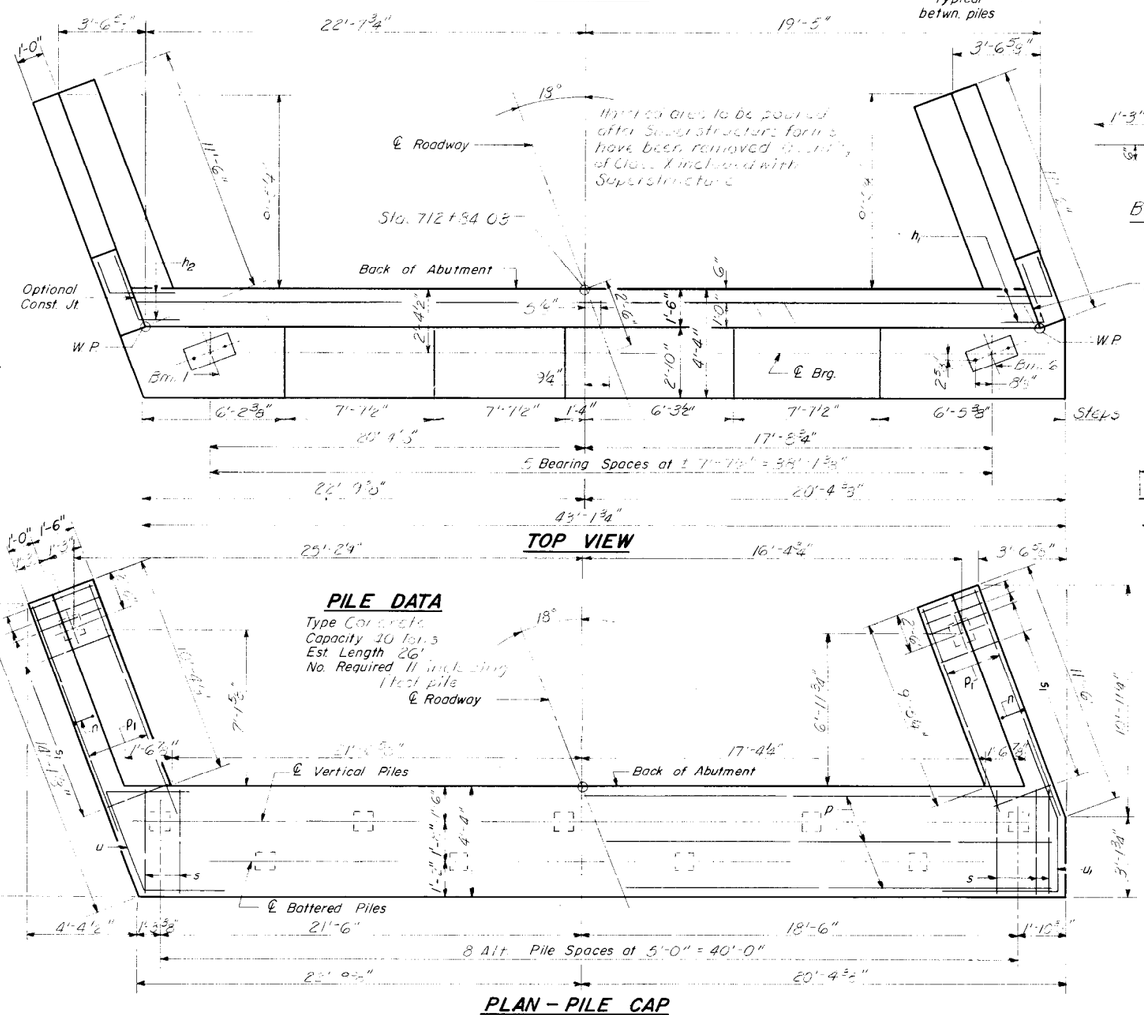
1" ϕ ANCHOR BOLT

SEC. A-A

SEC. THRU ABUT.



ELEVATION



PLAN - PILE CAP

PILE DATA

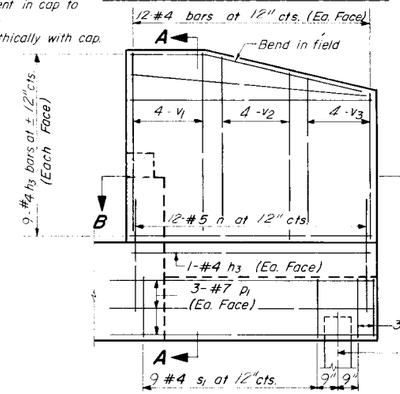
Type Concrete
Capacity 30 tons
Est. Length 26'
No. Required 11 including 1 test pile

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

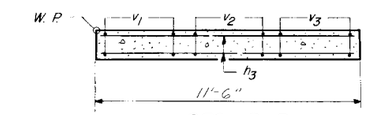
EXAMINED May 25 19 71
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

A-9-L (15°-34°) 2-1-66, 8-1-70

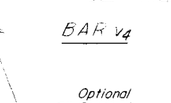
For location of electrical conduit see Sheet #2.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.



WING WALL ELEVATION
Reinforcement

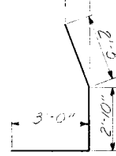


SEC. B-B



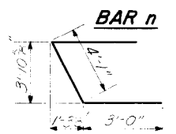
BAR v4

BAR s & s1

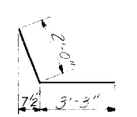


BAR u1

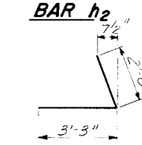
BAR n



BAR u



BAR h2



BAR h1

ONE ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	16	#5	21'-1"	—
h1	8	#5	5'-3"	⊥
h2	8	#5	5'-3"	L
h3	40	#4	11'-3"	—
h4	6	#6	21'-8"	—
n	24	#5	9'-3"	⊔
p	16	#7	23'-1"	—
p1	12	#7	11'-4"	—
s	43	#4	15'-1"	□
s1	24	#4	9'-5"	□
u	8	#6	10'-1"	⊂
u1	8	#6	8'-3"	⊃
v	84	#4	6'-3"	—
v1	16	#4	8'-2"	—
v2	16	#4	7'-7"	—
v3	16	#4	6'-1"	—
v4	42	#4	3'-3"	—
Class X Concrete			Cu. Yds.	46.3
Reinforcement Bars			Lbs.	3700
12" ϕ Piles			Lin. Ft.	260
Test Piles Concrete			Ea.	1

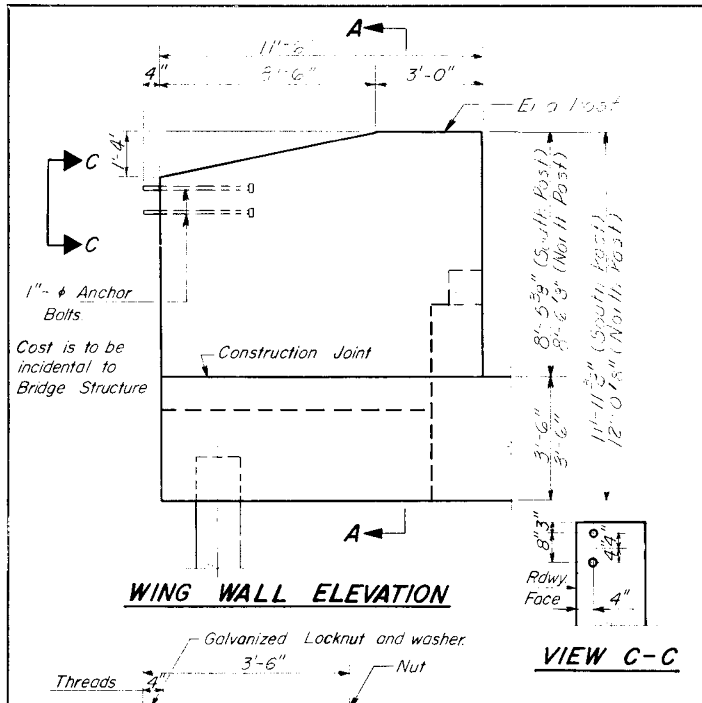
EAST ABUTMENT
SOUTH BOUND LANES
FAI RT 55 SEC 57-2B-2
McLEAN COUNTY
STA 711+75

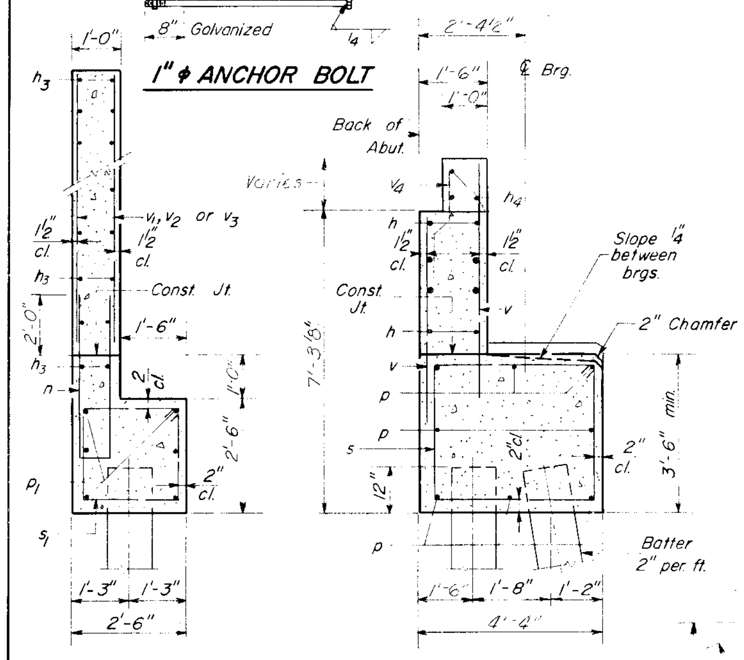
STATE OF ILLINOIS
[redacted]

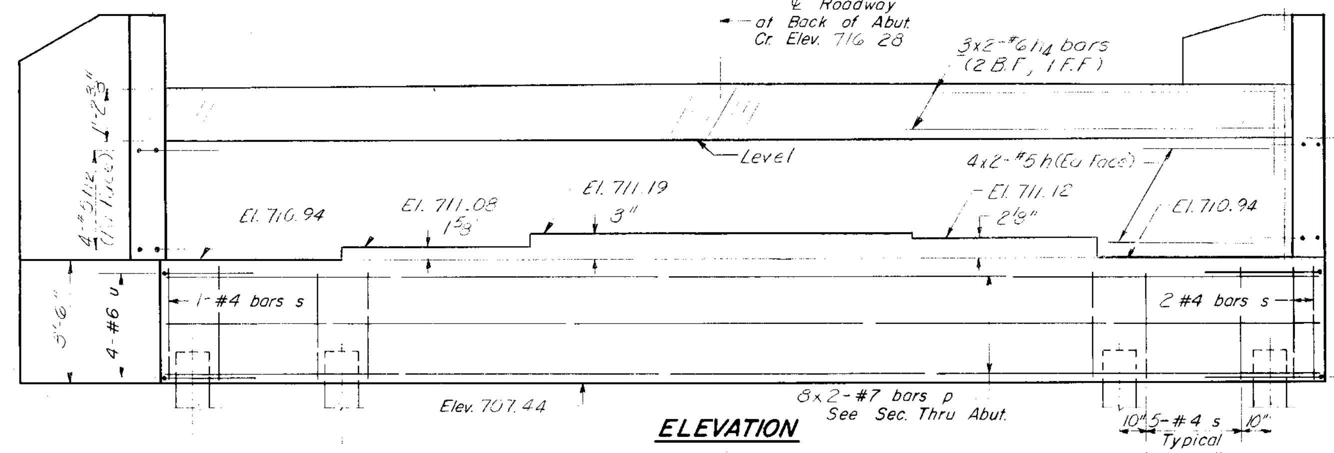
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

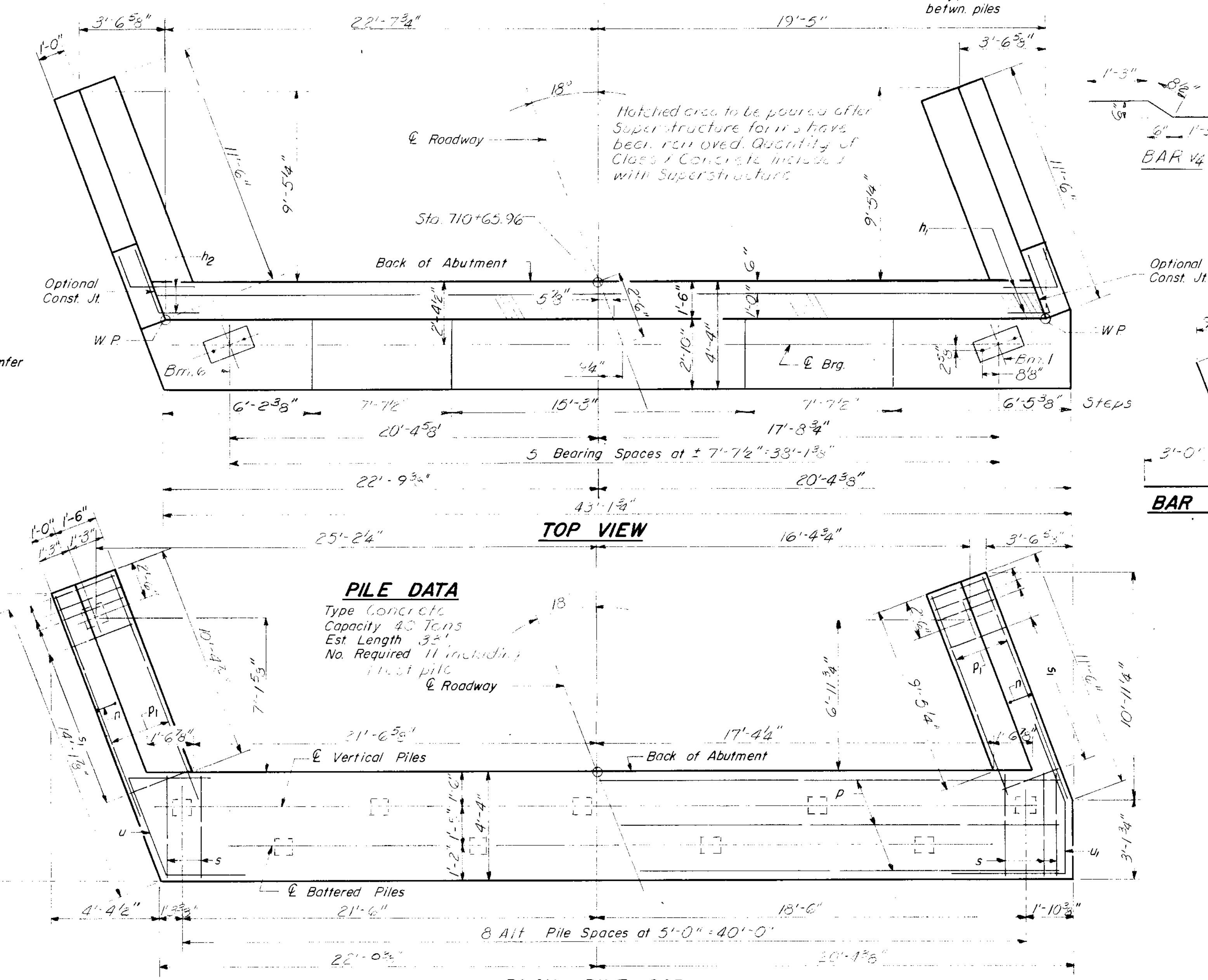
SHEET NO. 12
17 SHEETS

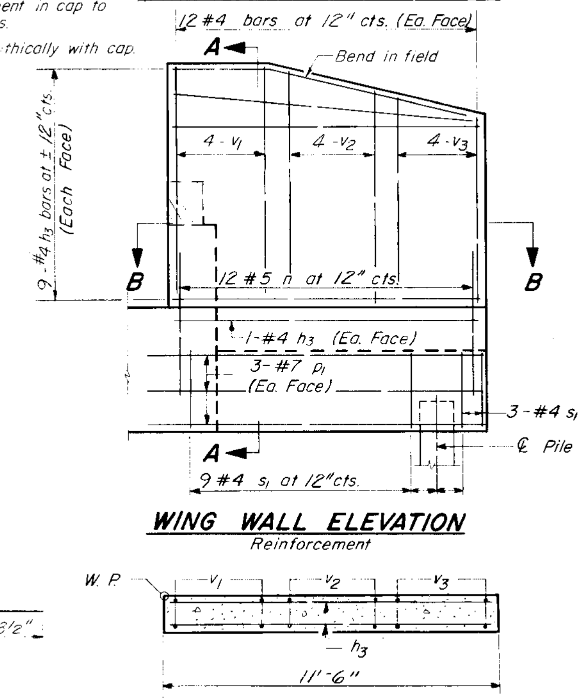
For location of electrical conduit see sheet #2
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

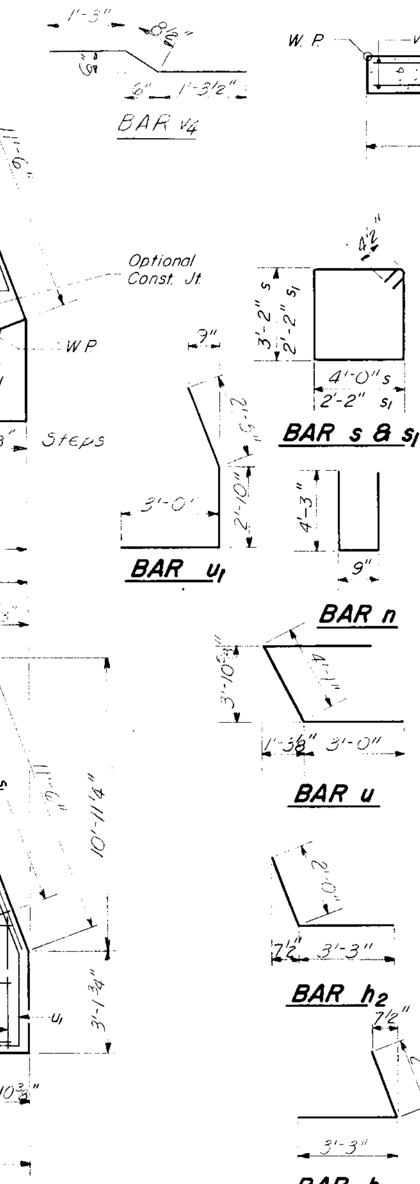












ONE ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	16	#5	21'-7"	——
h_1	8	#5	5'-3"	⅃
h_2	8	#5	5'-3"	_
h_3	40	#4	11'-3"	——
h_4	6	#6	21'-8"	——
n	24	#5	9'-3"	⊔
p	16	#7	23'-1"	——
p_1	12	#7	11'-4"	——
s	43	#4	15'-1"	◻
s_1	24	#4	9'-5"	◻
u	8	#6	10'-1"	⌐
u_1	8	#6	8'-3"	⅃
v	84	#4	6'-3"	——
v_1	16	#4	8'-3"	——
v_2	16	#4	7'-7"	——
v_3	16	#4	6'-11"	——
v_4	42	#4	3'-3"	⌐_

Class X Concrete	Cu. Yds.	45.8
Reinforcement Bars	Lbs.	3700
Concrete Piles	Lin. Ft.	330
Test Piles Concrete	Ea.	1

WEST ABUTMENT
NORTH BOUND LANES
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

DESIGNED	
CHECKED	
DRAWN	Bev Reinhart
CHECKED	

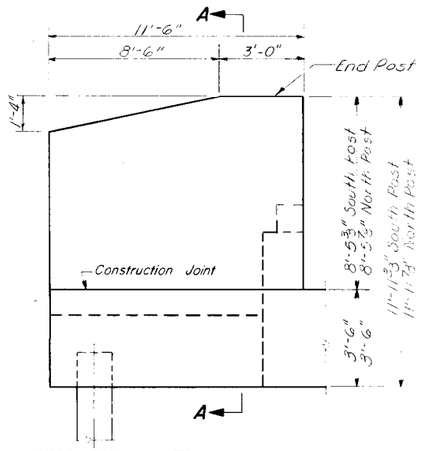
May 25 19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W.E. Baumann
ENGINEER OF DESIGN
APPROVED Richard H. Golterman
CHIEF HIGHWAY ENGINEER

A-9-L (15°-34°) 2-1-66, 8-1-70

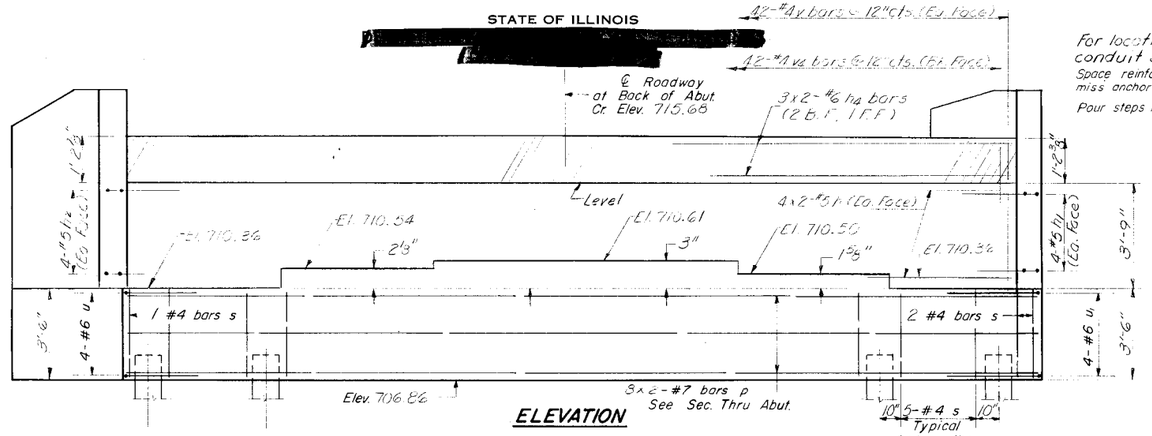
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 22
64 SHEETS

STATE OF ILLINOIS

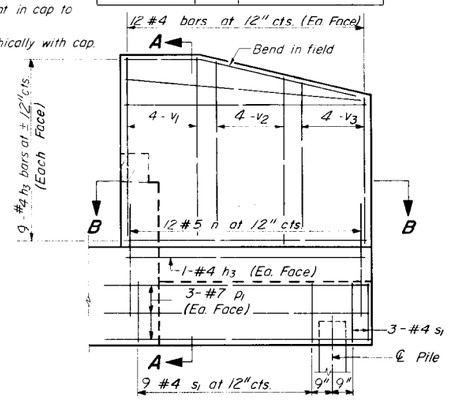


WING WALL ELEVATION

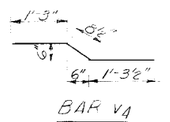


ELEVATION

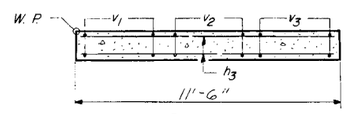
For location of electrical conduit see sheet #2.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.



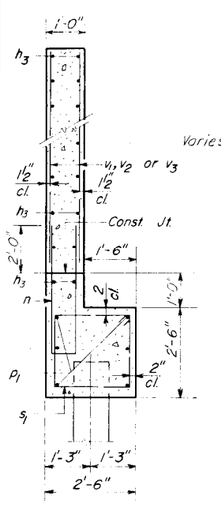
WING WALL ELEVATION
Reinforcement



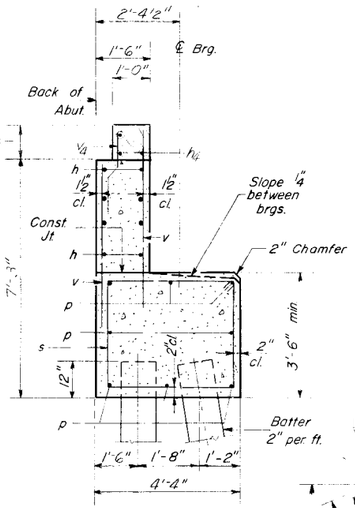
BAR v4



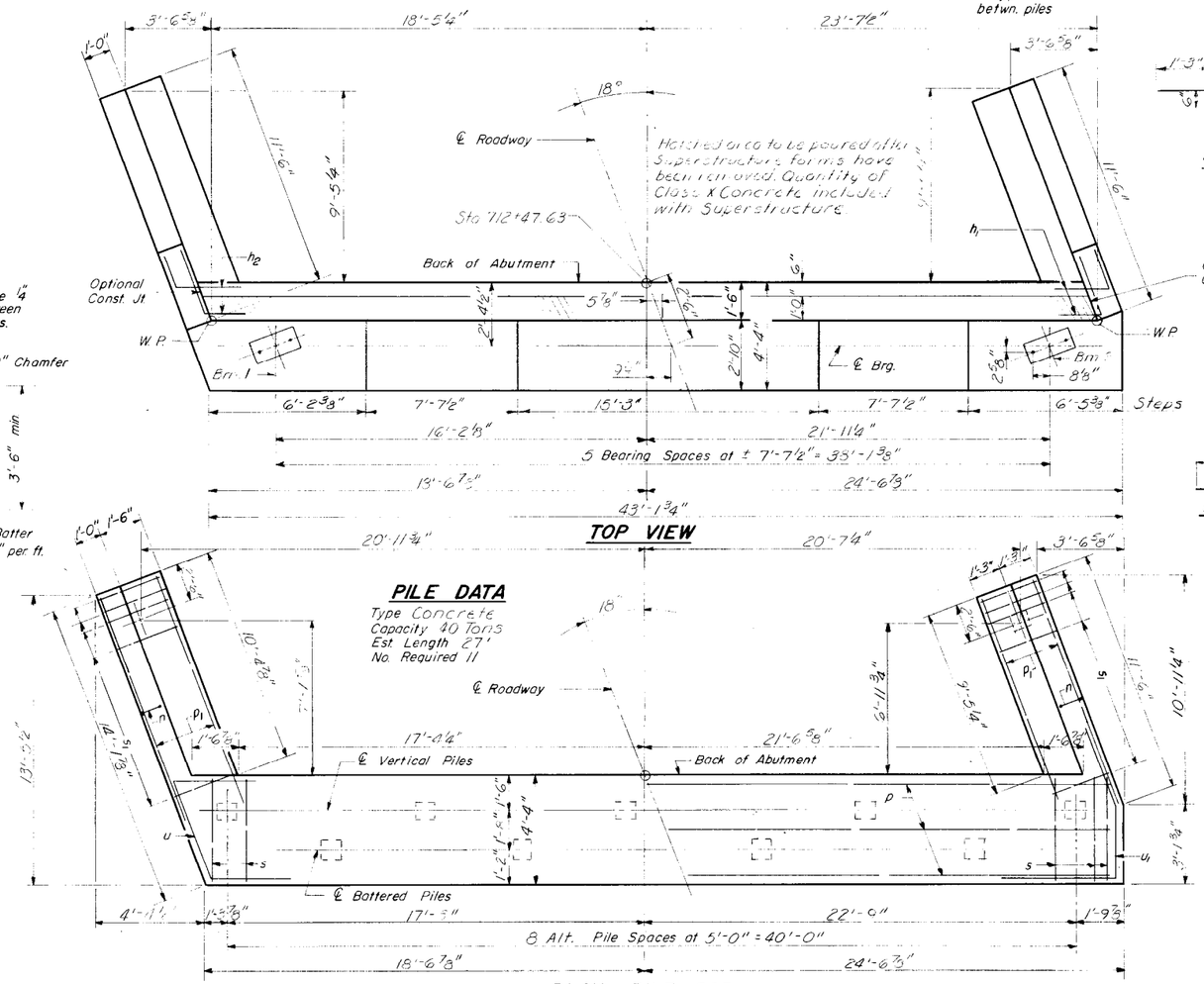
SEC. B-B



SEC. A-A

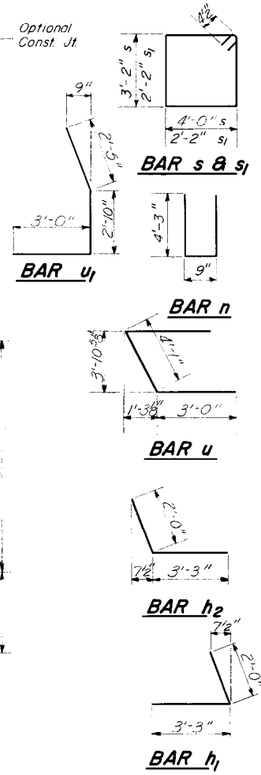


SEC. THRU ABUT.



PLAN - PILE CAP

PILE DATA
Type Concrete
Capacity 40 Tons
Est. Length 27'
No. Required 11



ONE ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	16	#5	21'-7"	
h1	8	#5	5'-3"	
h2	8	#5	5'-3"	
h3	40	#4	11'-3"	
h4	6	#6	21'-8"	
n	24	#5	9'-3"	
p	16	#7	23'-1"	
p1	12	#7	11'-4"	
s	43	#4	15'-1"	
s1	24	#4	9'-5"	
u	8	#6	10'-1"	
u1	8	#6	8'-3"	
v	84	#4	6'-3"	
v1	16	#4	8'-3"	
v2	16	#4	7'-7"	
v3	16	#4	6'-11"	
v4	42	#4	3'-3"	
Class X Concrete			Cu. Yds.	45.8
Reinforcement Bars			Lbs.	3700
Concrete Piles			Lin. Ft.	297

DESIGNED	D. N. H.
CHECKED	A. Y. K.
DRAWN	Bev. Robinson
CHECKED	A. Y. K.

EXAMINED _____ 19__
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W. E. Bamesberger
ENGINEER OF DESIGN
APPROVED Ralph A. Tudor
CHIEF HIGHWAY ENGINEER

EAST ABUTMENT
NORTH BOUND LANES
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

A-9-L (15°-34°) 2-1-66, 8-1-70

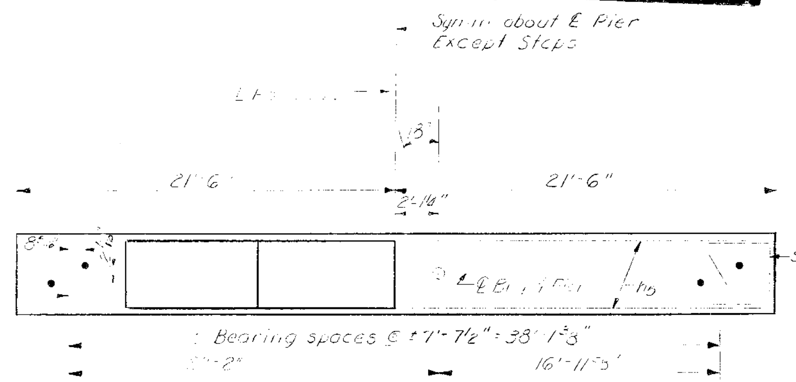
STATE OF ILLINOIS
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

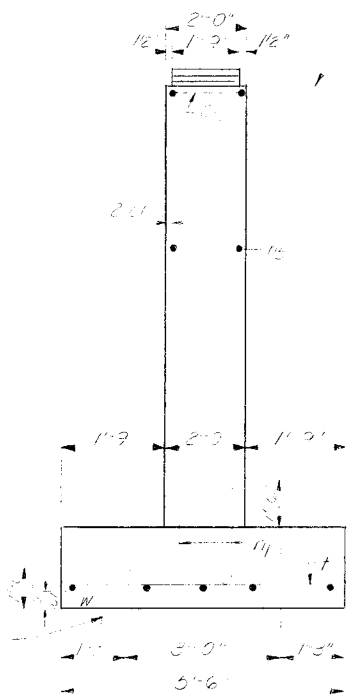
SHEET NO. 14
17 SHEETS

PILE DATA

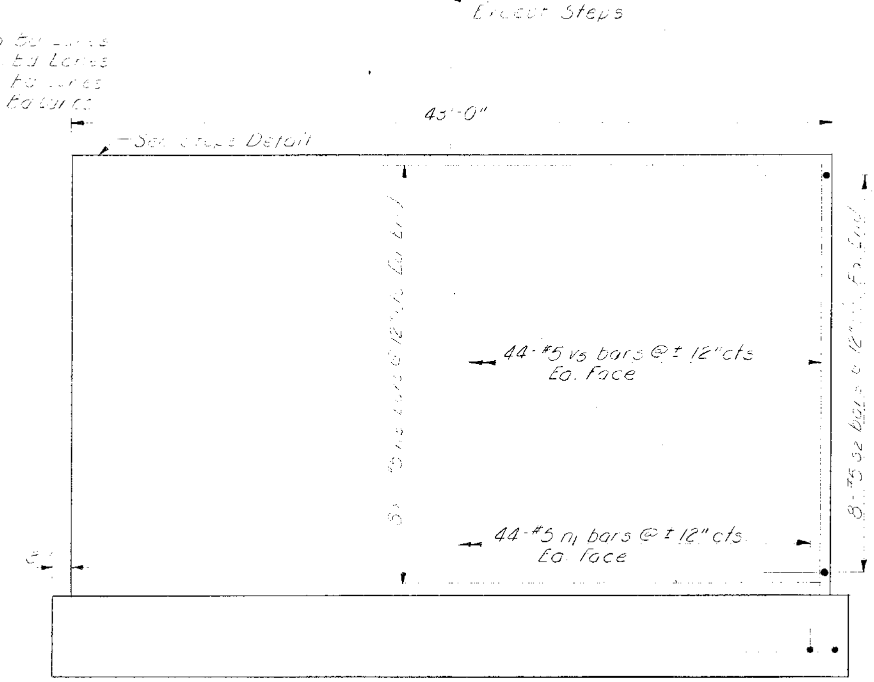
Capacity 30 Tons
Pier 1 South 23'
Pier 2 South 26'
Pier 1 North 18'
Pier 2 North
72 ... 2 test piles,
1 at Pier 1 South Bound lane & at
Pier 2 North Bound



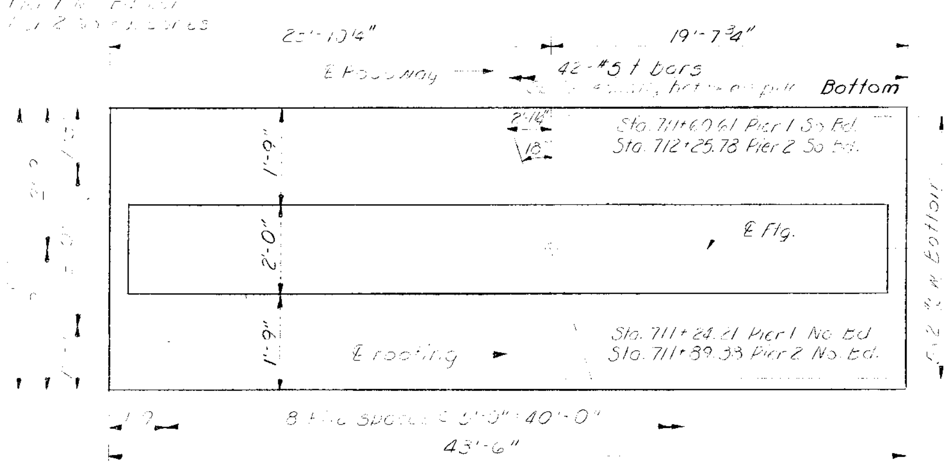
PLAN OF CAP



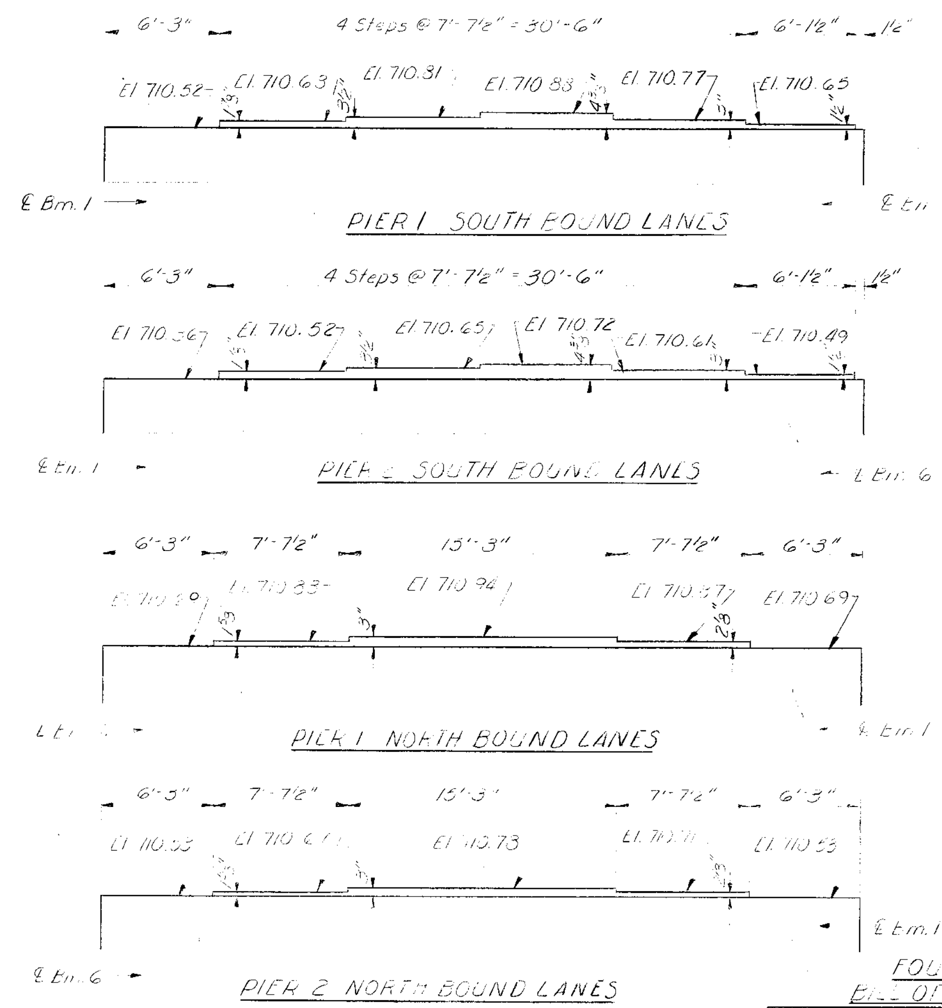
END VIEW



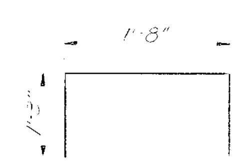
ELEVATION PIERS



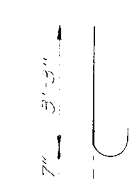
FOOTING PLAN



STEPS DETAIL



BAR S2



BAR n1

FOUR PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h5	128	#5	22'-0"	
n1	352	#5	3'-10"	
S2	64	#5	4'-2"	
t	163	#5	5'-3"	
v5	352	#5	7'-[illegible]"	
w	40	#5	22'-[illegible]"	
Class A Concrete			Cu. Yds.	175.2
Reinforcement Bars			Lbs.	9140
Concrete Piles			Lin. Ft.	1504
Test Piles Concrete			Ea.	2

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

PIERS
FAI RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	57282	McLEAN	64	24

SHEET NO. 2 OF 17 SHEETS

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

Boring No. 1
Station 710+97
Offset 67' Lt. ℄

Surface Water El. ——
Groundwater El. at
Completion —5.5'
After 24 Hours —5.0'

Elevation		N	Qu(t/sf)	w(%)	Recovery
Ground Surface 706.2	0				
BLACK, SILTY CLAY (STIFF, WET)		15	1.9	27	10
703.2					
BROWN, SILTY CLAY w/tr. MED. SAND (SOFT, V. WET) 701.7 ▽	-5	2 6	0.3 0.75	40 28	100
GREY, CLAY LOAM w/ FINE TO COARSE SAND & FINE GRAVEL (SOFT, WET) 700.7					
GRAY, FINE TO COARSE SAND & FINE GRAVEL (MEDIUM)		28	—	—	100
(DENSE)	-10	37	—	—	100
(DENSE)		43	—	—	100
(DENSE)	-15	35	—	—	100
(MEDIUM)		22	—	—	50
687.7					
GREY, SILT (HARD, MOIST)	-20	42	1.9	19	50

Elevation		N	Qu(t/sf)	w(%)	Recovery
	-20				
(V. STIFF, MOIST)		29	0.9	22	50
682.7					
GREY, FINE SAND (DENSE)	-25	40	—	—	50
680.2					
GREY, FINE TO COARSE SAND & TR./FINE TO MED. GRAVEL (DENSE)		33	—	—	50
(DENSE)	-30	38	—	—	50
(DENSE)		44	—	—	50
(V. DENSE)	-35	56	—	—	50
	-40				
(SAME MATERIAL AUGERED)					
	-45				
	-50				
(V. DENSE) 651.7		45			
GREY, CLAY LOAM w/TR. FINE TO COARSE SAND & TR. OF FINE TO MED. GRAVEL (HARD, DRY)	-55	651.2	27	15.6	100
END OF EXPLORATION @ 55'					
	-60				

Boring No. 2
Station 711+50
Offset 46' Lt. ℄

Surface Water El. ——
Groundwater El. at
Completion —4.5'
After 24 Hours —3.0'

Elevation		N	Qu(t/sf)	w(%)	Recovery
Ground Surface 706.0	0				
BLACK, SILTY CLAY (STIFF, MOIST)		9	B 1.1	22	100
703.0					
BROWN, SILTY CLAY, w/tr. FINE TO MED. SAND (SOFT, MOIST) 701.0 ▽	-5	4	B 0.3	22	100
GREY, FINE TO COARSE SAND & TR. OF FINE TO MED. GRAVEL (MEDIUM,		25	—	—	100
(MEDIUM)	-10	17	—	—	100
(MEDIUM)		22	—	—	100
(MEDIUM)	-15	24	—	—	100
(V. DENSE) 688.0		18	—	—	50
GREY, CLAY LOAM, W/FINE TO COARSE SAND & TR. FINE GRAVEL (IDENTIFICATION MADE FROM WASH WATER SOIL LUMPS) (HARD)	-20	33	—	—	N.S.

Elevation		N	Qu(t/sf)	w(%)	Recovery
	-20				
(HARD) 683.0		45	—	—	N.S.
GREY, FINE TO COARSE SAND & TR. FINE TO MED. GRAVEL, (MEDIUM)	-25	21	—	—	75
(V. DENSE)		58	—	—	75
(V. DENSE)	-30	62	—	—	50
(V. DENSE)		57	—	—	75
(V. DENSE) 671.0	-35	130	—	—	75
END OF EXPLORATION @ 35'					
	-40				

Boring No. 3
Station 712+34
Offset 67' Lt. ℄

Surface Water El. ——
Groundwater El. at
Completion —3.5'
After 24 Hours —3.0'

Elevation		N	Qu(t/sf)	w(%)	Recovery
Ground Surface 705.8	0				
BLACK, SILTY CLAY (STIFF)		13	B 1.0		50
702.8					
BROWN, SILTY CLAY w/tr. FINE TO MED. SAND ▽ (MEDIUM) 700.8	-5	7	B 0.3		
FINE TO COARSE SAND & tr./FINE TO MED. GRAVEL (MEDIUM)		16	—	—	100
(MEDIUM)		17	—	—	100
(V. DENSE)	-10	58	—	—	100
(V. DENSE)		167	—	—	10
691.8					
GREY, CLAY LOAM w/FINE TO COARSE SAND & Tr./FINE GRAVEL (HARD) CLASSIFICATION MADE FROM WASHINGS) (V. STIFF)	-15	47	—	—	N.S.
		25	—	—	N.S.
(HARD)	-20	36	—	—	N.S.

Elevation		N	Qu(t/sf)	w(%)	Recovery
	-20				
684.8					
GREY SILT (V. STIFF)		22	S 1.0		50
(V. STIFF)	-25	20	S 2.2		100
(HARD)		33	S 1.7		100
677.3					
GREY, FINE TO COARSE SAND w/tr. FINE TO MED. GRAVEL (MEDIUM)	-30	25	—	—	100
(DENSE)		48	—	—	N.S.
(V. DENSE) 670.8	-35	106	—	—	100
END OF EXPLORATION @ 35'					
	-40				

N-Standard Penetration Test – Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 # hammer falling 30"

Qu-Unconfined Compressive Strength – t/sf
w-Water Content – percentage of oven dry weight - %

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer
▽ Ground Water

DESIGNED	
CHECKED	
DRAWN Bev Robinson	
CHECKED	

19

EXAMINED

ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED

ENGINEER OF DESIGN

APPROVED

CHIEF HIGHWAY ENGINEER

BORING DATA
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

STATE OF ILLINOIS
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B-2	McLEAN	64	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 25 SHEETS

Boring No. 4 — Station 712+88 — Offset 46' Lt. ℄

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 705.9	0			
BLACK SILTY CLAY w/TR.SAND (STIFF) 703.4	10	S 0.87	33	20
GREY-BLACK SILTY CLAY w/TR FINE TO MED. SAND (V.SOFT, V. WET) 700.9	0	—	34	0
GREY SANDY LOAM w/SAND SEAMS (MEDIUM, MOIST) 698.4	24	S 0.82	23	100
GREY SILTY LOAM w/ FINE TO COARSE SAND & TR.FINE GRAVEL (HARD, MOIST) -10 695.4	32	S 2.37	18	100
GREY-BROWN SILTY CLAY LOAM w/ TR.FINE TO COARSE SAND & TR. FINE GRAVEL (HARD, DAMP) 692.9	36	B 7.76	13	100
GREY SILT (V. STIFF, MOIST) -15 690.4	34	S 3.69	19	100
GREY SILTY LOAM w/ FINE TO COARSE SAND & TR. FINE GRAVEL (HARD, DAMP)	49	S 7.37	10	100
(HARD, DAMP) -20	69	S 10.2	12	100

Elevation	N	Qu(t/sf)	w(%)	Recovery
-20				
(HARD, DAMP)	56	S 6.69	10	100
680.9 -25	83	S 20.8	9	100
GREY, FINE TO COARSE SAND w/FINE TO COARSE GRAVEL (V.DENSE)	77	—	—	100
(MEDIUM) -30	19	—	—	100
672.4				
GREY FINE SAND (V. DENSE) 670.9 -35	192	—	—	50
GREY CLAY LOAM w/FINE TO COARSE SAND & FINE TO MEDIUM GRAVEL (HARD)	119	E 13+	—	0
(HARD) 656.9 -40	—	E 13+	11	—
END OF EXPLORATION @ 40'				

Boring No. 6 — Station 711+14 — Offset 67' Rt. ℄

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 705.7	0			
BLACK, SILTY CLAY (SOFT) 704.2				
BROWN, SILTY CLAY w/tr.FINE TO MED. SAND ▽	8	B 0.7	25	50
(MEDIUM, WET) 702.2				
BLACK, SILTY CLAY w/tr.SAND (SOFT) 701.7	3		32	
GREY, FINE TO COARSE SAND & TR.FINE GRAVEL (LOOSE)	5	—	—	100
(MEDIUM)	25	—	—	100
(V. DENSE) -10	77	—	—	100
(DENSE)	43	—	—	100
691.7				
GREY, SILT SEAM (HARD, MOIST) 691.2 -15	24 18	B 5.3	16	100
(MEDIUM)				
N.S.	30	—	—	0
(MEDIUM) -20	26	—	—	20

Elevation	N	Qu(t/sf)	w(%)	Recovery
-20				
(V. DENSE)	57	—	—	50
-25				
(V. DENSE)	54	—	—	50
(V. DENSE)	58	—	—	100
(DENSE) -30	50	—	—	100
(DENSE)	49	—	—	100
(V. DENSE) -35	70	—	—	100
668.7	29			
GREY, SILTY CLAY LOAM w/tr. FINE TO COARSE SAND & Tr. FINE TO MED. GRAVEL (HARD)	17	—	—	0
665.7 -40	54	—	—	0
END OF EXPLORATION @ 40				

Boring No. 8 — Station 712+50 — Offset 67' Rt. ℄

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 706.0	0			
BLACK SILTY CLAY (STIFF, V.WET) 703.0	11	L 0.5	34	5
GREY-BLACK SILTY CLAY (MEDIUM, V.WET) 701.0 -5 ▽	4	B 0.5	31	20
BLACK CLAY LOAM w/FINE TO COARSE SAND 700.0				
GRLY-FINE TO COARSE SAND & FINE TO MEDIUM GRAVEL (DENSE, V.WET)	47	—	34	100
(V. DENSE) 695.5 -10	100	—	—	100
GREY-BROWN SILTY CLAY LOAM w/FINE TO COARSE SAND & FINE GRAVEL (HARD, DAMP)	42	B 5.6	11	50
(V.STIFF, DAMP) 691.0 -15	28	B 4.4	14	100
GREY SILT w/ SOME FINE SAND SEAMS (V. STIFF, MOIST)	23	S 2.2	22	100
-20	14	S 2.1	23	100
(STIFF)				

Elevation	N	Qu(t/sf)	w(%)	Recovery
-20				
(HARD, MOIST) 683.5	31	S 1.5	21	100
GREY, FINE TO COARSE SAND & FINE TO MEDIUM GRAVEL (DENSE) -25	43	—	—	100
(V. DENSE)	60	—	—	100
(DENSE) -30	33	—	—	5
(DENSE)	44	—	—	50
(V.DENSE) 671.0 -35	79	—	—	50
END OF EXPLORATION @ 35'				

Boring No. 5 — Station 710+61 — Offset 46' Rt. ℄

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 706.3	0			
BLACK, SILTY CLAY (STIFF, WET) 703.8	9	B 1.0	28	50
BROWN, SILTY CLAY w/FINE TO MED. SAND SEAMS ▽ (MEDIUM, V.WET) 701.3	5 2	B 0.6	31	100
GREY, FINE TO COARSE SAND w/TR.CLAY SEAMS TR.FINE GRAVEL (LOOSE) 697.8	5	—	—	100
GREY, FINE TO COARSE SAND w/tr. FINE TO MED. GRAVEL -10 (MEDIUM)	22	—	—	100
(DENSE)	32	—	—	100
(MEDIUM) -15	26	—	—	100
(MEDIUM)	22	—	—	100
(MEDIUM) -20	21			

Elevation	N	Qu(t/sf)	w(%)	Recovery
-20				
685.3				
GREY, CLAY LOAM w/FINE TO COARSE SAND & tr./FINE TO MED. GRAVEL (HARD)	35	—	—	N.S
-25	49	B 3.6	12	50
(HARD)	65	B 1.5 S 2.2	14	100
(HARD) -30	183	E 13+	9	100
(HARD) 674.3	268	E 13+	11	100
END OF EXPLORATION @ 32'				
-35				
-40				

Boring No. 7 — Station 711+98 — Offset 46' Rt. ℄

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 705.2	0			
BLACK SILTY CLAY (MEDIUM, V.WET) 702.7	7	L 0.5	42	5
BROWN CLAY LOAM ▽ 701.2	5			
GREY, FINE TO COARSE SAND & FINE TO MEDIUM GRAVEL (MEDIUM) -5	25	—	—	100
(DENSE)	34	—	—	100
(MEDIUM) -10	18	—	—	100
(MEDIUM)	25	—	—	5
(MEDIUM) -15	22	—	—	80
(MEDIUM)	19	—	—	80
(MEDIUM) -20	29	—	—	50

Elevation	N	Qu(t/sf)	w(%)	Recovery
-20				
(DENSE)	49	—	—	50
-25	97	—	—	100
(V. DENSE)	62	—	—	5
(DENSE) -30	46	—	—	40
(DENSE)	46	—	—	100
(DENSE) -35	48	—	—	100
(DENSE)	50	—	—	100
(V. DENSE) 665.2 -40	70	—	—	100
END OF EXPLORATION @ 40'				

DESIGNED	
CHECKED	
DRAWN Rel Robinson	
CHECKED	

19

EXAMINED

ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES

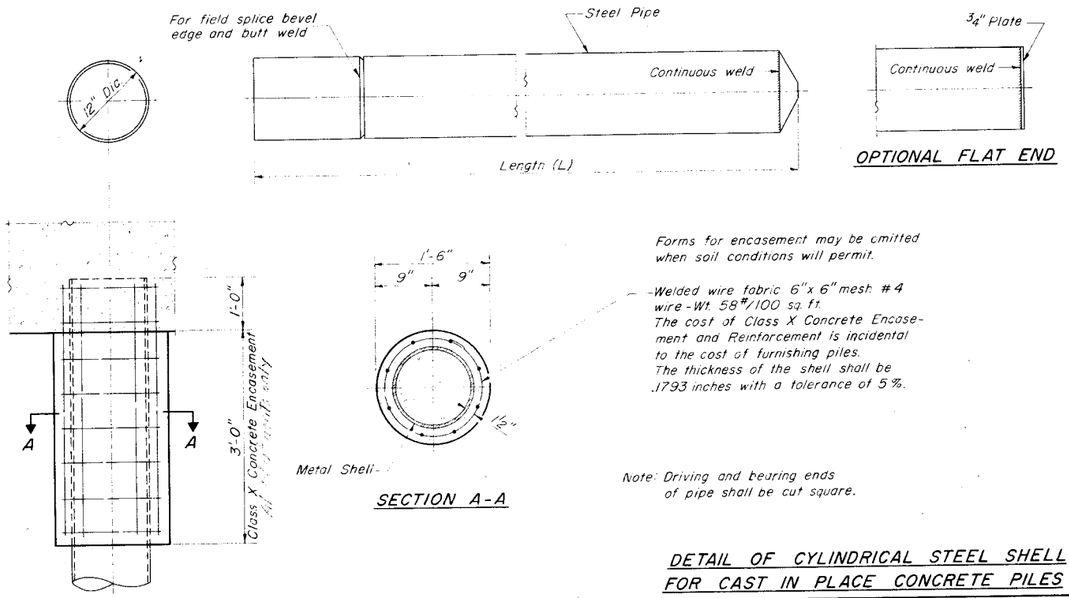
PASSED

APPROVED

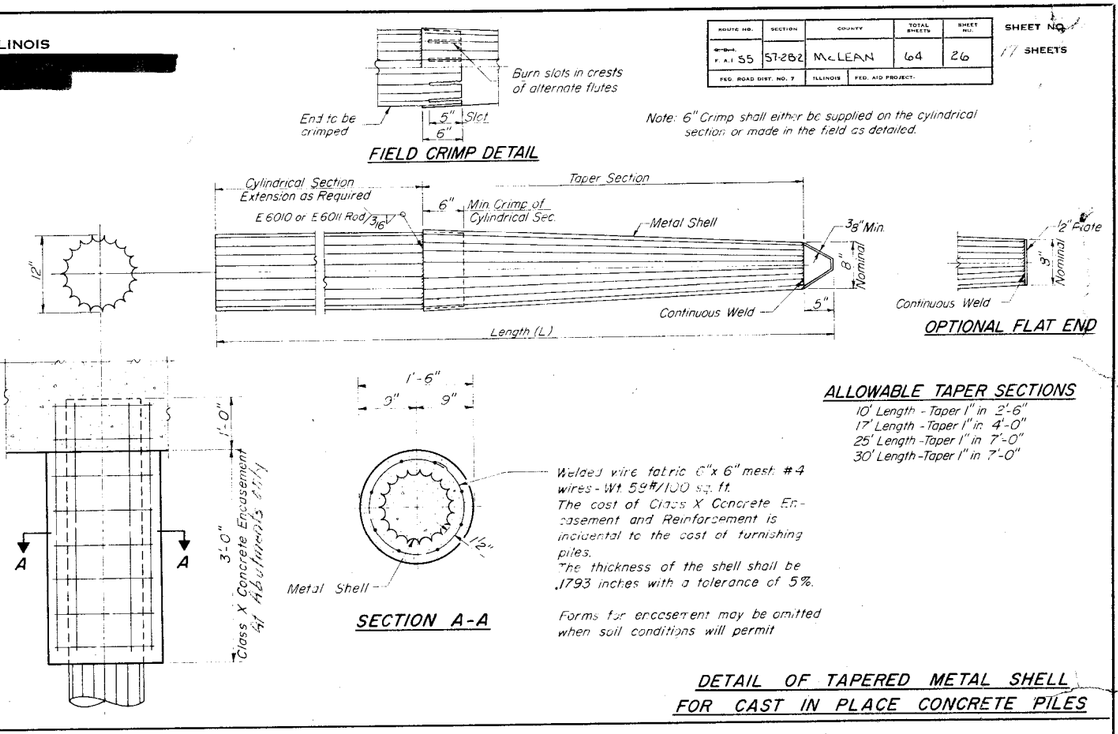
CHIEF ENGINEER

BORING DATA
F.A.I. RT. 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

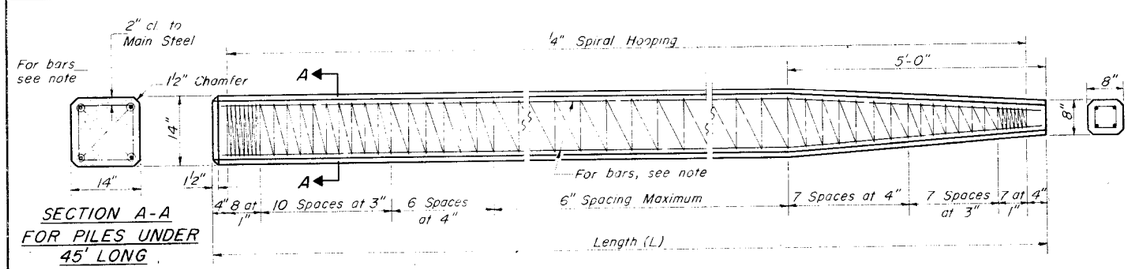
STATE OF ILLINOIS



DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONCRETE PILES

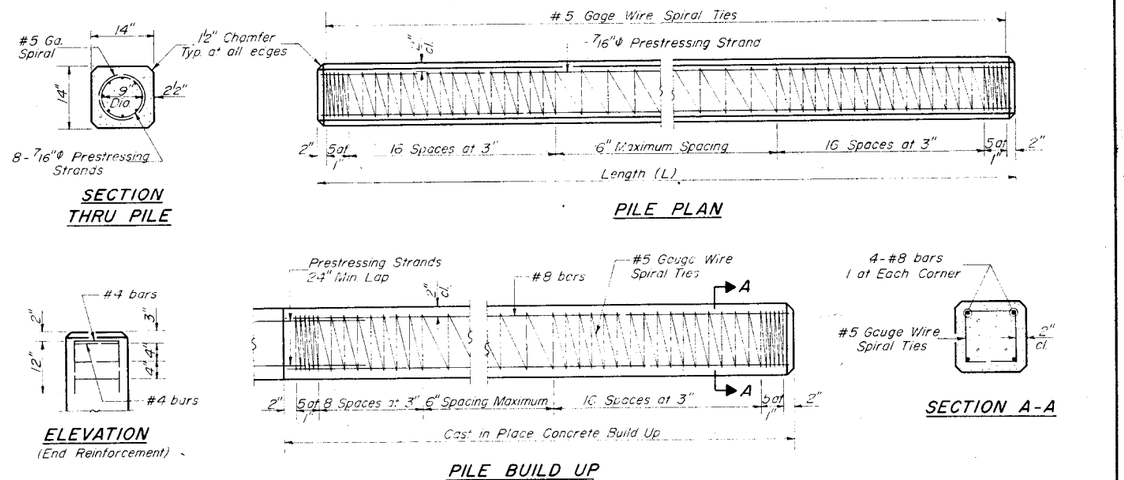


DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED H.E. Baumann
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

X-2 2-14-69

DETAIL OF PRECAST CONCRETE PILES



DESIGN STRESSES
f'_c = 5,000 psi.
f'_{ci} = 4,000 psi.
f'_s = 268,000 psi. (31,000 lbs.)
f'_{si} = 188,000 psi. (21,700 lbs.)

Note: Prestressing steel shall be non-galvanized extra high strength stress-relieved 7 wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.1155 square inch.

Handling: For pile lengths up to 65', use two slings placed at a distance of 0.21 L from each end. For piles longer than 65', use three slings placed at a distance of 0.12 L from each end at midpoint of pile.

PILE DETAILS
FAI RT 55 SEC. 57-2B-2
McLEAN COUNTY
STA. 711+75

DETAIL OF PRECAST PRESTRESSED CONCRETE PILES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2B2	McLEAN	64	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 26
17 SHEETS

FAI RTE 55 SEC 57-2B-2

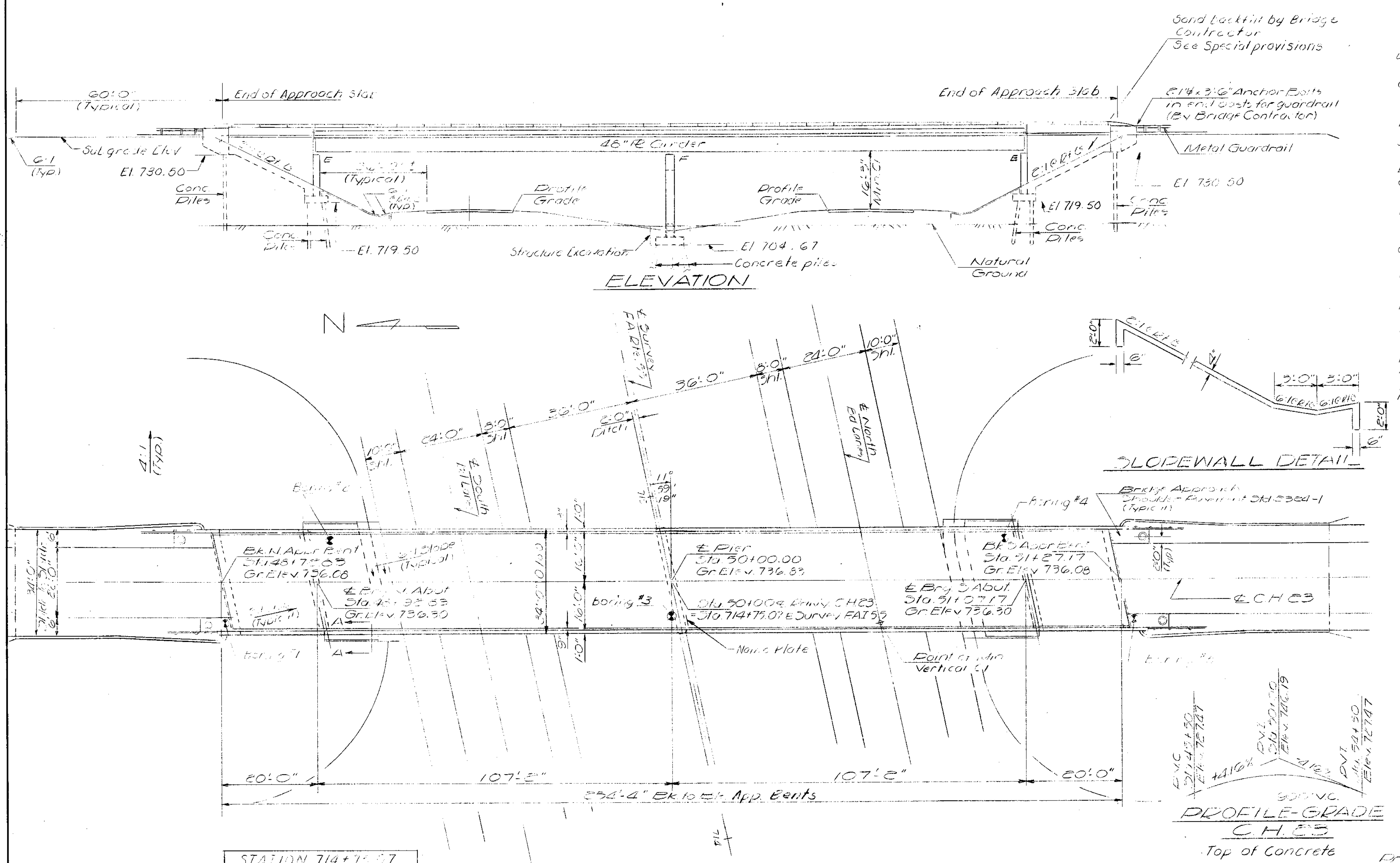
B.M. #43A RR Spike in ... corner 330' Lt. Sta 713+72 Elev. 710.05

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
13 SHEETS



GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts ⅞" ϕ; open holes 15/16"ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 244 540 lbs.

The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 5 # per 100 sq. ft.

The Contractor shall drive two concrete test piles in permanent locations, one @ N. Approach Bent and one @ Pier as directed by the Engineer before ordering the remainder of piles.

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 512.09(c) of the Standard Specifications.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

Protective Coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.

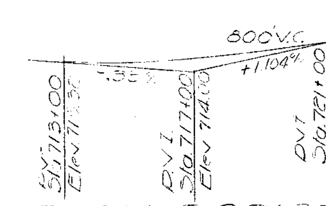
TOTAL BILL OF MATERIAL

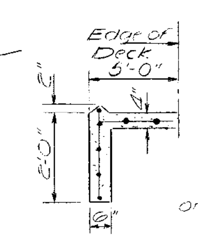
Item	Unit	Super	Sub	Total
Structure Excavation	Cu. Yds.		77	77
Sand Backfill	Cu. Yds.		186	186
Protective Coat	Sq. Yds.	190		190
Class X Concrete	Cu. Yds.	280.9	164.[illegible]	445.5
Structural Steel	L.S.	L.S.		L.S.
Stud Shear Connectors	Each	1860		1860
Alum. ... Railing	Lin. Ft.	584		584
Reinforcement Bars	Lbs.	69800	26640	96440
Concrete Piles	Lin. Ft.		2104	2104
Test Piles (Concrete)	Each		2	2
Name Plates	Each		1	1
Slope Wall (4")	Sq. Yds.		350	350
Preformed Jt. Sealer	Lin. Ft.	70		70
Coal Tar Interlayer Protective Coat	Sq. Yds.	857		857
Bit. Conc. Surf. Course Class I	Tons	71		71

Note: Grade Elevations shown are on top of concrete deck

STATION 714+75.07
BUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 57-2HB
PROJ. I-55-5 (36)
LOADING HS20

NAME PLATE





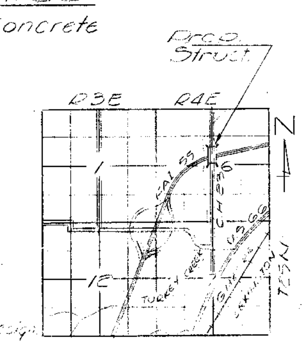
DESIGN STRESSES

fc = 1200 psi Floor Slab (Main Spans)
fc = 1400 psi Curb, Parapet, Sub & Deck Slab (Approach Spans)
fs = 20,000 psi Reinf.
fs = 20,000 psi Struct.
Vc = 75 psi Footings
n = 10

No future wearing surface in addition to the original ½" wearing surface is provided for in this design.

Design Specifications 1969 AASHO as applicable

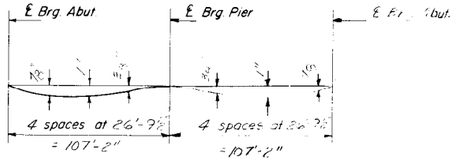
LOADING HS20-44



DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — CHIEF HIGHWAY ENGINEER

GENERAL PLAN & ELEVATION
PROJ. I-55-5 (36) 177
C.H. 23 OVER F.A.I. RTE 55
F.A.I. ROUTE 55
SECTION 57-2HB
McLEAN COUNTY
STATION 714+75.07

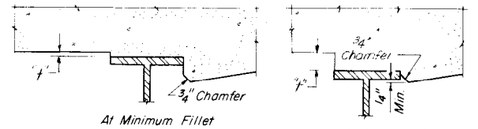


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

STATE OF ILLINOIS



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 28 OF 13 SHEETS

Base of East Curb

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	4869.592	-15.250	735.784	735.784
F.F. of N. Appr. Bent	4872.147	-15.250	735.814	735.814
A	4882.147	-15.250	735.928	735.928
Bk. N. Abut	4888.654	-15.250	735.997	735.997
Bk. S. Abut	5104.869	-15.250	736.061	736.061
V	5114.869	-15.250	735.960	735.960
F.F. S. Appr. Bent	5121.376	-15.250	735.889	735.889
Bk. S. Appr. Bent	5123.932	-15.250	735.860	735.860

Base of West Curb

Bk. N. Appr. Bent	4876.068	15.250	735.860	735.860
F.F. N. Appr. Bent	4878.624	15.250	735.839	735.839
A	4888.624	15.250	735.996	735.996
Bk. N. Abut.	4895.131	15.250	736.061	736.061
Bk. S. Abut	5111.346	15.250	735.937	735.997
V	5121.346	15.250	735.839	735.889
F.F.S. Appr. Bent	5127.853	15.250	735.814	735.814
Bk. S. Appr. Bent	5130.403	15.250	735.784	735.784

℄ Girder 1

Bk. N. Abut.	4888.920	-14.000	736.025	736.025
℄ Brg. N. Abut.	4889.857	-14.000	736.035	736.035
B	4899.857	-14.000	736.132	736.161
C	4909.857	-14.000	736.220	736.277
D	4919.857	-14.000	736.279	736.376
E	4929.857	-14.000	736.368	736.469
F	4939.857	-14.000	736.429	736.513
G	4949.857	-14.000	736.479	736.563
H	4959.857	-14.000	736.521	736.576
I	4969.857	-14.000	736.554	736.589
J	4979.857	-14.000	736.577	736.599
K	4989.857	-14.000	736.591	736.600
℄ Brg. Pier	4997.627	-14.000	736.595	736.595
L	5007.627	-14.000	736.593	736.616
M	5017.627	-14.000	736.582	736.618
N	5027.627	-14.000	736.562	736.603
O	5037.627	-14.000	736.532	736.592
P	5047.627	-14.000	736.493	736.572
Q	5057.627	-14.000	736.445	736.539
R	5067.627	-14.000	736.388	736.488
S	5077.627	-14.000	736.321	736.398
T	5087.627	-14.000	736.246	736.294
U	5097.627	-14.000	736.161	736.181
℄ Brg. S. Abut.	5104.197	-14.000	736.094	736.094
Bk. S. Abut.	5105.135	-14.000	736.085	736.085

℄ Girder 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut	4890.406	-7.000	736.165	736.165
℄ Brg. N. Abut.	4891.344	-7.000	736.175	736.175
B	4901.344	-7.000	736.271	736.299
C	4911.344	-7.000	736.357	736.414
D	4921.344	-7.000	736.435	736.512
E	4931.344	-7.000	736.503	736.584
F	4941.344	-7.000	736.562	736.646
G	4951.344	-7.000	736.611	736.685
H	4961.344	-7.000	736.652	736.716
I	4971.344	-7.000	736.683	736.718
J	4981.344	-7.000	736.705	736.727
K	4991.344	-7.000	736.717	736.726
℄ Brg. Pier	4998.514	-7.000	736.721	736.721
L	5008.514	-7.000	736.717	736.730
M	5018.514	-7.000	736.705	736.731
N	5028.514	-7.000	736.683	736.724
O	5038.514	-7.000	736.652	736.712
P	5048.514	-7.000	736.612	736.681
Q	5058.514	-7.000	736.562	736.646
R	5068.514	-7.000	736.504	736.584
S	5078.514	-7.000	736.436	736.512
T	5088.514	-7.000	736.358	736.427
U	5098.514	-7.000	736.272	736.292
℄ Brg. S. Abut.	5105.684	-7.000	736.204	736.234
Bk. S. Abut	5106.621	-7.000	736.195	736.195

℄ Roadway or Girder 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	4872.830	0.0	736.082	736.082
F.F. N. Appr. Bent	4875.386	0.0	736.112	736.112
A	4885.386	0.0	736.223	736.223
Bk. N. Abut	4891.892	0.0	736.290	736.290
℄ Brg. N. Abut	4892.830	0.0	736.299	736.299
B	4902.830	0.0	736.394	736.422
C	4912.830	0.0	736.479	736.536
D	4922.830	0.0	736.555	736.632
E	4932.830	0.0	736.621	736.722
F	4942.830	0.0	736.679	736.793
G	4952.830	0.0	736.727	736.851
H	4962.830	0.0	736.766	736.891
I	4972.830	0.0	736.796	736.831
J	4982.830	0.0	736.816	736.839
K	4992.830	0.0	736.828	736.837
℄ Brg. Pier	5000.000	0.0	736.830	736.830
L	5010.000	0.0	736.825	736.838
M	5020.000	0.0	736.812	736.837
N	5030.000	0.0	736.788	736.829
O	5040.000	0.0	736.756	736.816
P	5050.000	0.0	736.714	736.793
Q	5060.000	0.0	736.664	736.747
R	5070.000	0.0	736.604	736.633
S	5080.000	0.0	736.534	736.611
T	5090.000	0.0	736.456	736.504
U	5100.000	0.0	736.368	736.388
℄ Brg. S. Abut.	5107.170	0.0	736.299	736.299
Bk. S. Abut	5108.107	0.0	736.290	736.290
V	5118.107	0.0	736.185	736.185
F.F. S. Appr. Bent	5124.614	0.0	736.112	736.112
Bk. S. Appr. Bent	5127.170	0.0	736.082	736.082

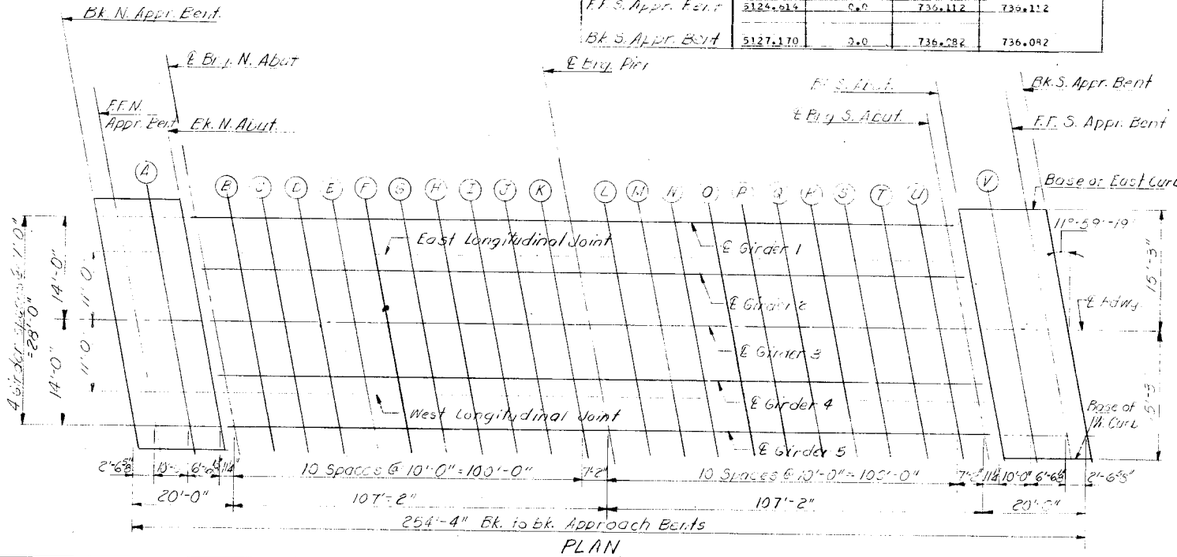
℄ Girder 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N Abut.	4893.379	7.000	736.195	736.195
℄ Brg. N. Abut	4894.316	7.000	736.204	736.204
B	4904.316	7.000	736.297	736.326
C	4914.316	7.000	736.381	736.438
D	4924.316	7.000	736.456	736.533
E	4934.316	7.000	736.521	736.602
F	4944.316	7.000	736.577	736.662
G	4954.316	7.000	736.624	736.698
H	4964.316	7.000	736.662	736.716
I	4974.316	7.000	736.690	736.725
J	4984.316	7.000	736.709	736.731
K	4994.316	7.000	736.719	736.728
℄ Brg. Pier	5001.486	7.000	736.721	736.721
L	5011.486	7.000	736.715	736.727
M	5021.486	7.000	736.699	736.725
N	5031.486	7.000	736.675	736.716
O	5041.486	7.000	736.641	736.701
P	5051.486	7.000	736.598	736.677
Q	5061.486	7.000	736.546	736.629
R	5071.486	7.000	736.484	736.564
S	5081.486	7.000	736.414	736.490
T	5091.486	7.000	736.334	736.383
U	5101.486	7.000	736.245	736.265
℄ Brg. S. Abut	5108.656	7.000	736.175	736.175
Bk. S. Abut.	5109.594	7.000	736.165	736.165

℄ Girder 5

Bk. N. Abut.	4894.365	14.000	736.085	736.085
℄ Brg. N. Abut	4895.303	14.000	736.094	736.094
B	4905.303	14.000	736.186	736.214
C	4915.303	14.000	736.268	736.325
D	4925.303	14.000	736.341	736.419
E	4935.303	14.000	736.405	736.486
F	4945.303	14.000	736.460	736.544
G	4955.303	14.000	736.505	736.579
H	4965.303	14.000	736.542	736.596
I	4975.303	14.000	736.569	736.604
J	4985.303	14.000	736.586	736.609
K	4995.303	14.000	736.595	736.604
℄ Brg. Pier	5002.973	14.000	736.595	736.595
L	5012.973	14.000	736.588	736.601
M	5022.973	14.000	736.571	736.597
N	5032.973	14.000	736.545	736.586
O	5042.973	14.000	736.510	736.570
P	5052.973	14.000	736.466	736.545
Q	5062.973	14.000	736.412	736.496
R	5072.973	14.000	736.350	736.436
S	5082.973	14.000	736.277	736.354
T	5092.973	14.000	736.196	736.245
U	5102.973	14.000	736.106	736.126
℄ Brg. S. Abut.	5110.143	14.000	736.035	736.035
Bk S. Abut.	5111.080	14.000	736.025	736.025

Note: See Sh #3 for Longitudinal Joint Elevations



DESIGNED	RAC
CHECKED	S.M.P.
DRAWN	P.G. Barnett BKR
CHECKED	J.M.P.

E-S 8-1-65

Sept. 14 1971

EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED
ENGINEER OF DESIGN

APPROVED
CHIEF HIGHWAY ENGINEER

TOP OF SLAB ELEVATIONS
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714 + 75.07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	29
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 3
13 SHEETS

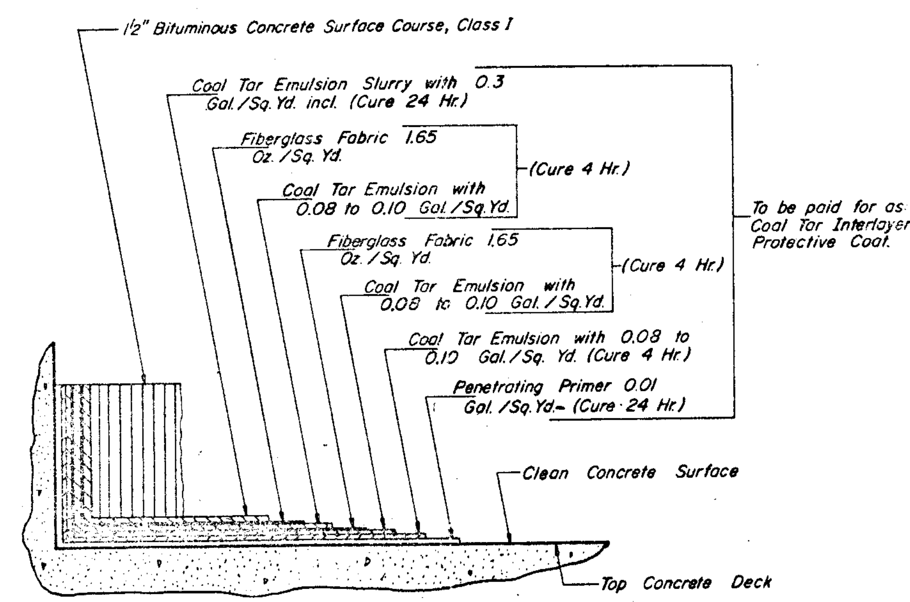
STATE OF ILLINOIS
[redacted]

EAST LONGITUDINAL JOINT

LOCATION	STATION	OFFSET	ELEV	ADJ ELEV
Bk North Abut	4889,557	-11,[illegible]	736,[illegible]94	736,[illegible]94
℄ Brg N. Abut	4890,494	-11,[illegible]	736,1[illegible]4	736,1[illegible]4
B	490[illegible],494	-11,[illegible]	736,2[illegible]	736,229
C	491[illegible],494	-11,[illegible]	736,2[illegible]	736,345
D	492[illegible],494	-11,[illegible]	736,366	736,443
E	493[illegible],494	-11,[illegible]	736,435	736,516
F	494[illegible],494	-11,[illegible]	736,494	736,579
G	4950,494	-11,[illegible]	736,545	736,618
H	4960,494	-11,[illegible]	736,5[illegible]	736,6[illegible]
I	497[illegible],494	-11,[illegible]	736,[illegible]18	736,6[illegible]
J	4980,494	-11,[illegible]	736,[illegible]41	736,6[illegible]
K	49[illegible],494	-11,[illegible]	736,654	736,[illegible]
℄ Brg Pier	4997,[illegible]	-11,[illegible]	736,658	736,65[illegible]
L	50[illegible]7,664	-11,[illegible]	736,655	736,6[illegible]
M	5017,[illegible]	-11,[illegible]	736,644	736,669
N	5027,[illegible]	-11,[illegible]	736,623	736,663
O	5037,664	-11,[illegible]	736,593	736,652
P	5047,[illegible]	-11,[illegible]	736,553	736,6[illegible]2
Q	5057,664	-11,[illegible]	736,5[illegible]4	736,5[illegible]
R	5067,664	-11,[illegible]	736,4[illegible]	736,526
S	5077,664	-11,[illegible]	736,379	736,4[illegible]
T	5087,[illegible]	-11,[illegible]	736,3[illegible]	736,392
U	5097,664	-11,[illegible]	736,217	736,233
℄ Brg. S Abut	5104,834	-11,[illegible]	736,15[illegible]	736,1[illegible]
Bk S Abut	5105,772	-11,[illegible]	736,141	736,141

WEST LONGITUDINAL JOINT

LOCATION	STATION	OFFSET	ELEV	ADJ ELEV
Bk N. Abut	4894,228	11,[illegible]	736,141	736,141
℄ Brg N. Abut	4895,166	11,[illegible]	736,15[illegible]	736,15[illegible]
B	4905,166	11,[illegible]	736,242	736,271
C	4915,166	11,[illegible]	736,325	736,382
D	4925,166	11,[illegible]	736,3[illegible]	736,477
E	4935,166	11,[illegible]	736,464	736,545
F	4945,166	11,[illegible]	736,519	736,6[illegible]4
G	4955,166	11,[illegible]	736,565	736,625
H	4965,166	11,[illegible]	736,6[illegible]2	736,656
I	4975,166	11,[illegible]	736,63[illegible]	736,655
J	4985,166	11,[illegible]	736,[illegible]8	736,67[illegible]
K	4995,166	11,[illegible]	736,657	736,656
℄ Brg Pier	5002,336	11,[illegible]	736,65[illegible]	736,658
L	5012,33[illegible]	11,[illegible]	736,651	736,664
M	5022,33[illegible]	11,[illegible]	736,6[illegible]5	736,661
N	5032,336	11,[illegible]	736,61[illegible]	736,65[illegible]
O	5042,336	11,[illegible]	736,57[illegible]	736,635
P	5052,336	11,[illegible]	736,531	736,61[illegible]
Q	5062,336	11,[illegible]	736,478	736,552
R	5072,336	11,[illegible]	736,416	736,4[illegible]6
S	5082,336	11,[illegible]	736,345	736,471
T	5092,336	11,[illegible]	736,264	736,31[illegible]
U	5102,336	11,[illegible]	736,174	736,194
℄ Brg S. Abut	5109,506	11,[illegible]	736,1[illegible]4	736,1[illegible]4
Bk S. Abut.	5110,443	11,[illegible]	736,[illegible]94	736,[illegible]94



DETAIL OF DECK SURFACING

DESIGNED	G. I. Rao
CHECKED	J. M. Patel
DRAWN	Bo Robinson
CHECKED	J.M.P.

19

EXAMINED ______ ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED ______ ENGINEER OF DESIGN

APPROVED ______ CHIEF HIGHWAY ENGINEER

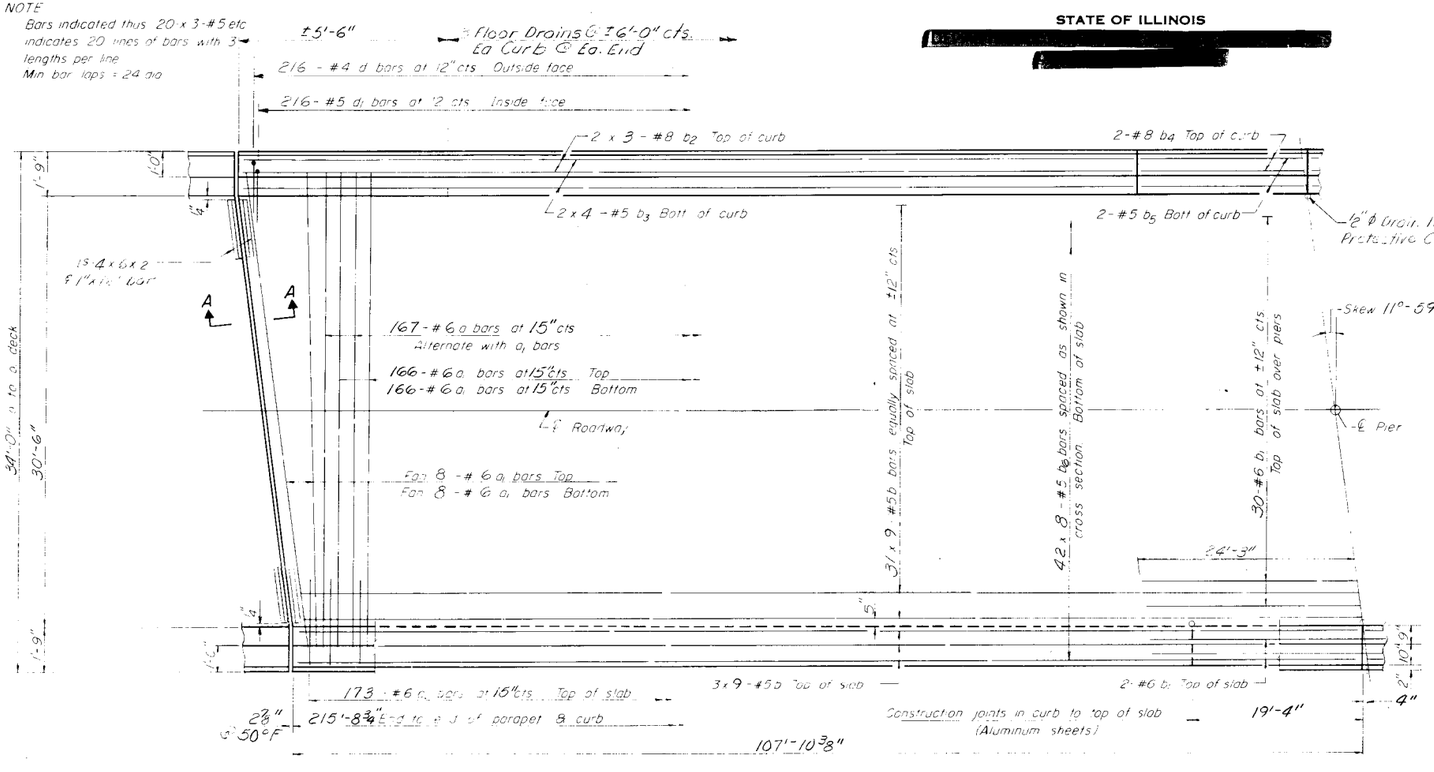
TOP OF SLAB ELEVATIONS
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714+75.07

NOTE
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line
Min bar laps = 24 dia

STATE OF ILLINOIS
[redacted]

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI 55	ST-2HB	McLEAN	64	30
FED ROAD DIST NO 7	ILLINOIS	FED AID PROJECT		

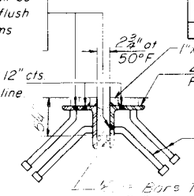
SHEET NO. 4
13 SHEETS



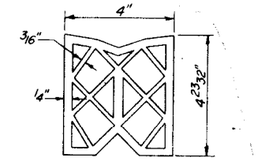
HALF PLAN

7/16"ϕ holes at 12" c/s for 3/8" bolts set on 2 1/2" gage line. All bolts shall be burned, sawed or clipped off flush with back of angles after forms are removed.

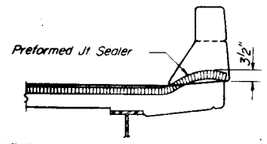
7/16"ϕ vent holes at 12" c/s set on 1 3/8" gage line.



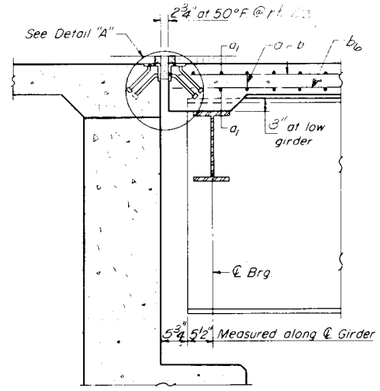
DETAIL "A"



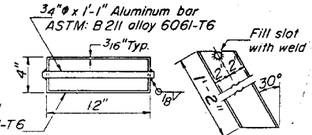
PREFORMED JOINT SEALER (4")



TYPICAL END OF SEALER TREATMENT



SECTION A-A



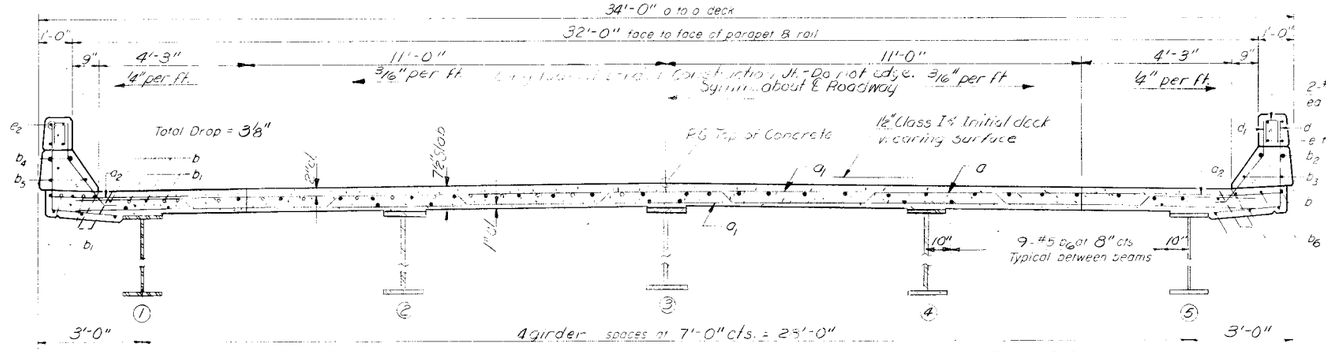
Aluminum Sheets Welded ASTM: B209 alloy 6061-T6 or Aluminum Extrusions ASTM: B221 alloy 6061-T6

FLOOR DRAIN
Cost incidental to Class X Concrete (Total 8 required)

NOTE: For placement of bars d_3 and e thru e_2 see sheet # 10

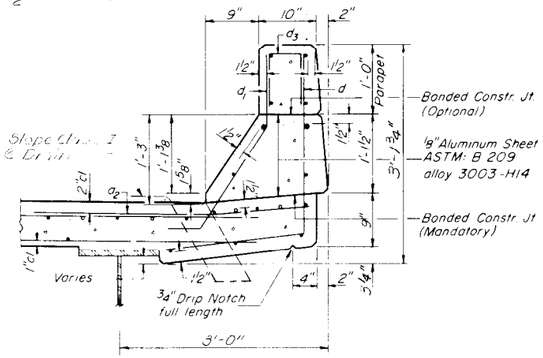
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	167	# 6	33'-7"	
a1	364	# 6	32'-0"	
a2	46	#6	4'-0"	
b	333	#5	25'-3"	
b1	34	#6	48'-6"	
b2	24	#8	31'-0"	
b3	32	#5	23'-3"	
b4	8	#8	19'-1"	
b5	8	#5	19'-1"	
b6	336	#5	28'-3"	
d	432	#4	4'-5"	J
d1	432	#5	3'-3"	J
Reinforcement Bars			Lbs	55210
Class X Concrete			Cu Yds	204.0
Preformed Jt Sealer			Lin Ft	70



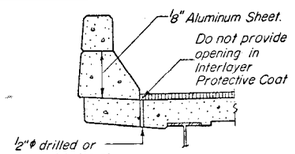
NEAR PIER NEAR MIDSPAN

CROSS SECTION
(LOOKING SOUTH)

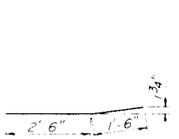


CURB SECTION
Cost of Aluminum Sheets shall be incidental to Class X Concrete

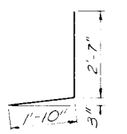
Parapet Reinforcement and Class X Concrete are billed on sheet # 5



SECTION AT CURB JOINTS



BAR a_2

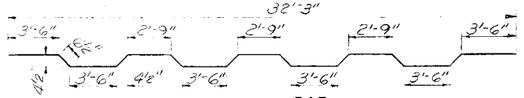


BAR d

BAR d_1

DESIGNED	R. J. K.
CHECKED	J. M. Patel
DRAWN	Bev. Robinson
CHECKED	J. M. P.

EXAMINED Sept 14 1971
PASSED
APPROVED



BAR a

SUPERSTRUCTURE
MAIN SPANS
FAI RT 55 SEC 57-2HB
McLEAN COUNTY
STA 714 + 75.07

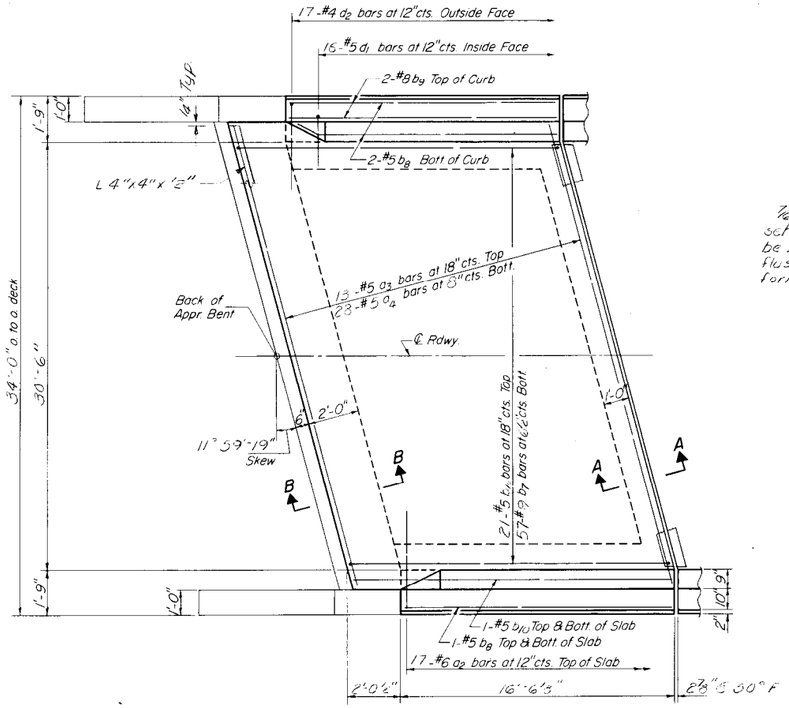
S-5846-R(≦15°)

STATE OF ILLINOIS

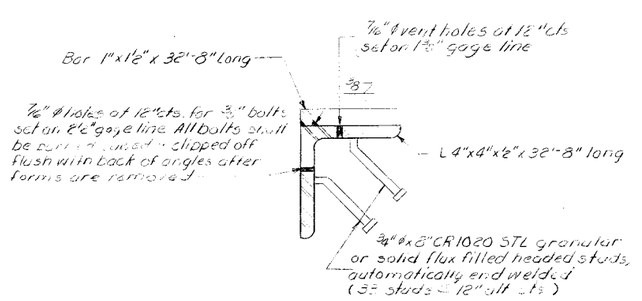
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57.2HB	McLEAN	64	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

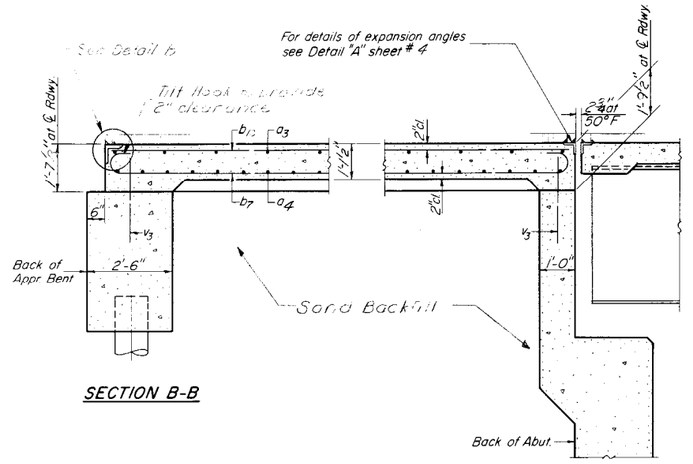
SHEET NO. 5
13 SHEETS



PLAN

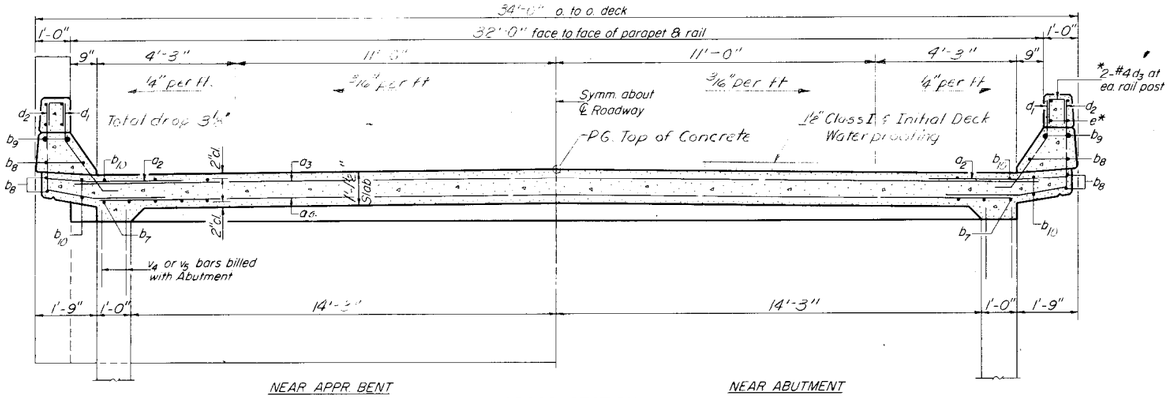


DETAIL "B"



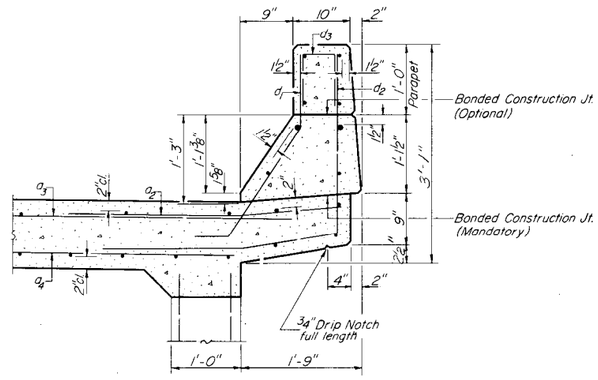
SECTION B-B

SECTION A-A



NEAR APPR. BENT NEAR ABUTMENT

CROSS SECTION



CURB SECTION

TWO APPR. SLABS
BILL OF MATERIAL

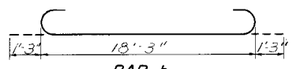
Bar	No	Size	Length	Shape
a_2	68	#6	4'-0"	—
a_3	23	#5	32'-0"	—
a_4	56	#5	30'-3"	—
b_7	114	#9	20'-9"	⊂ ⊃
b_8	16	#5	16'-3"	—
b_9	8	#8	16'-3"	—
b_{10}	50	#5	18'-3"	—
d_1	64	#5	3'-3"	⌋
d_2	68	#4	5'-11"	⌋
Reinforcement Bars			Lbs.	1514
Class X Concrete			Cu Yds.	30.9

*Parapet Reinforcement and Class X Concrete are billed on sheet # 5

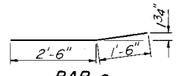
DESIGNED	[illegible] G.K
CHECKED	[illegible]
DRAWN	Ben Robinson
CHECKED	[illegible]

EXAMINED Sept 11 19[illegible]
DIRECTOR OF HIGHWAYS AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

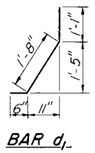
SAS-R (≤30°) 3-1-69



BAR b_7



BAR a_2



BAR d_1

BAR d_2

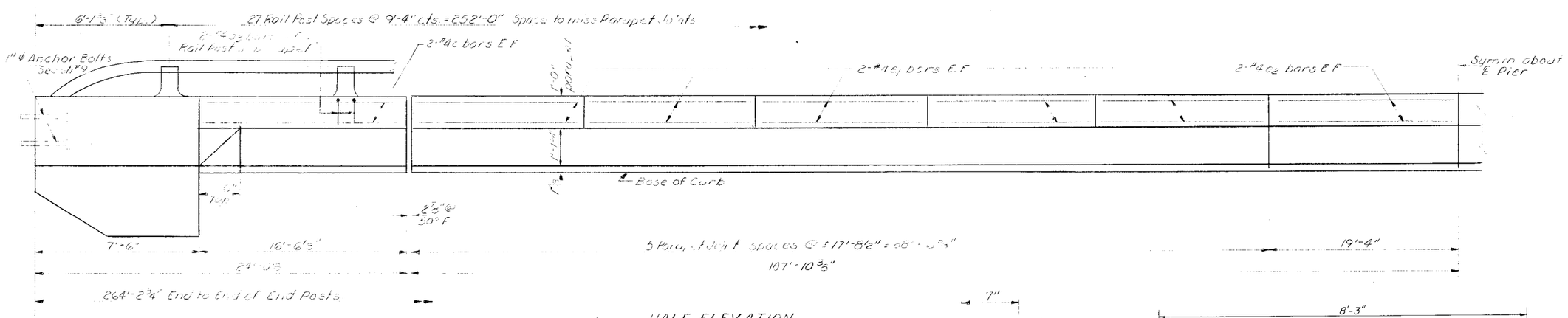
SUPERSTRUCTURE
APPROACH SLABS
F.A.I. RT 55 SEC 57.2HB
McLEAN COUNTY
STA 714+75.07

STATE OF ILLINOIS

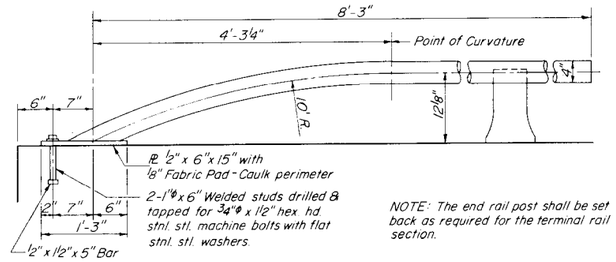
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

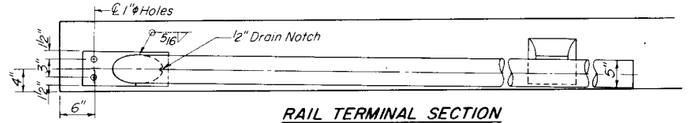
SHEET NO. 6
13 SHEETS



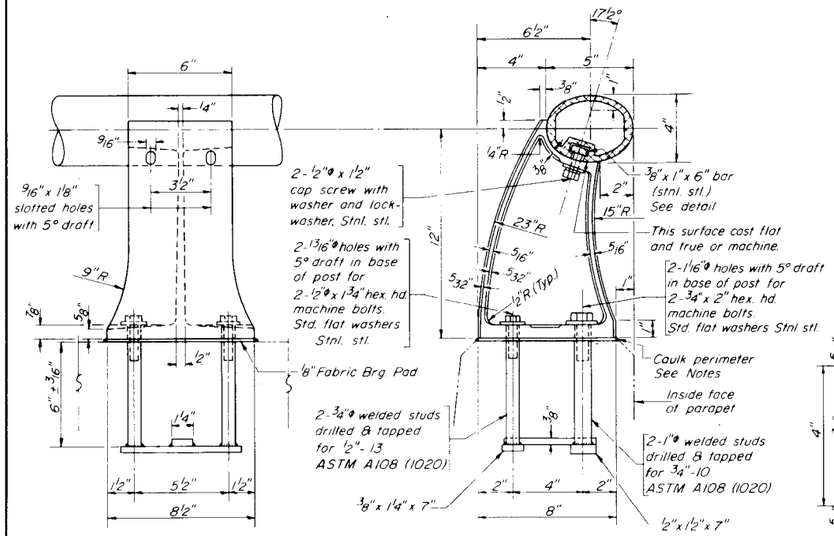
HALF ELEVATION



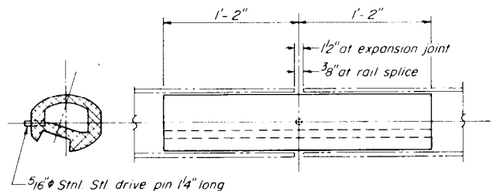
NOTE: The end rail post shall be set back as required for the terminal rail section.



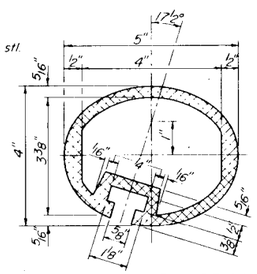
RAIL TERMINAL SECTION



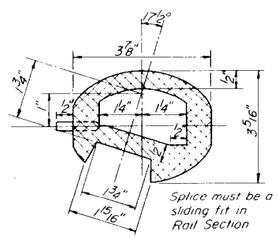
RAIL POST DETAILS



RAIL SPLICE

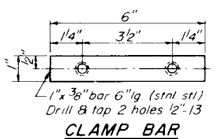


SEC. THRU ELLIPTICAL RAIL SECTION



Splice must be a sliding fit in Rail Section

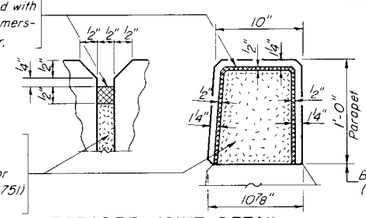
SEC. THRU SPLICE



CLAMP BAR

Two component non-staining gray sealing compound with polysulfide liquid polymers-gun grade with primer.

1/2" Preformed Cork Asphalt Joint Filler. (meets qualifications for ASTM: Designation D 1751) Cost incidental.



PARAPET JOINT DETAIL

NOTES:

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.

All joints in rail shall be spliced per detail.

Provide 1 - 1/8" and 2 - 1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B 221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min. tensile 38 ksi, and elongation of 10% in 2 inches.

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e	16	#4	16'-3"	
e1	80	#4	17'-5"	
e2	16	#4	19'-1"	
d3	101	℄ 4	2'-1"	
Reinforcement Bars			Lbs.	1450
Class X Concrete			Cu. Yds.	16.0
Aluminum Railing			Lin. Ft.	524

ALUMINUM RAILING
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714+75.07

DESIGNED	RAO G.K
CHECKED	[illegible]
DRAWN	Bev Robinson
CHECKED	[illegible]

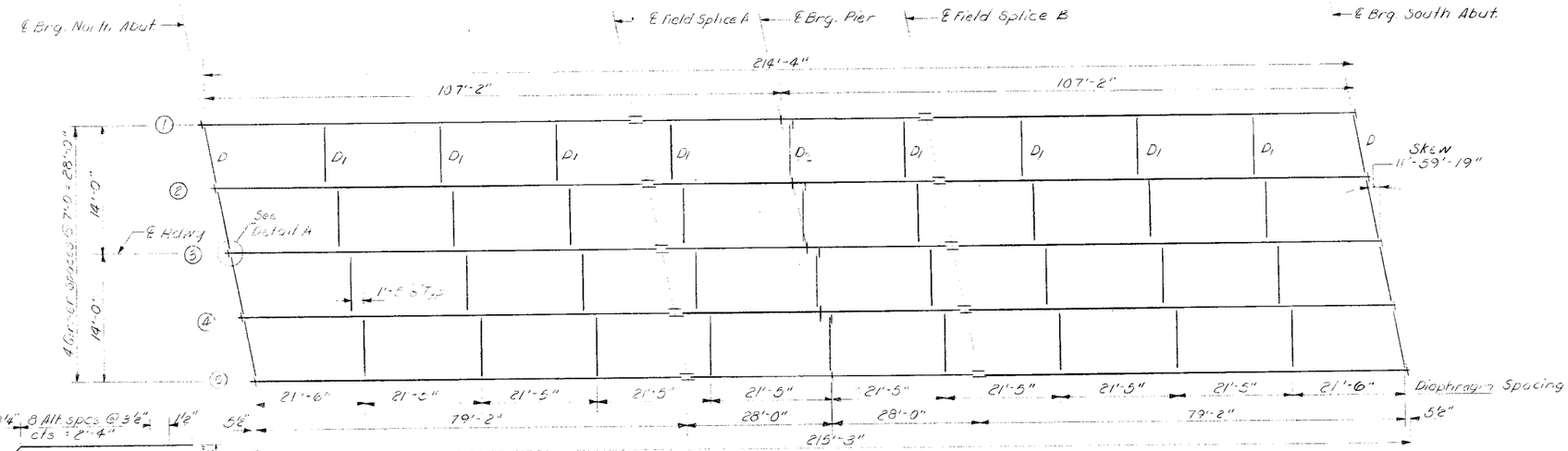
EXAMINED [illegible] 19[illegible]
ENGINEER, BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

R-17 4-22-68 9-18-69 3-3-71

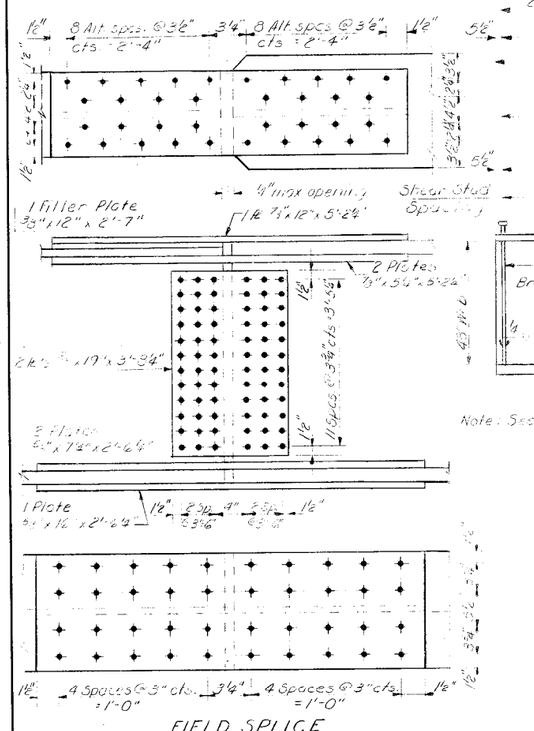
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 7
13 SHEETS

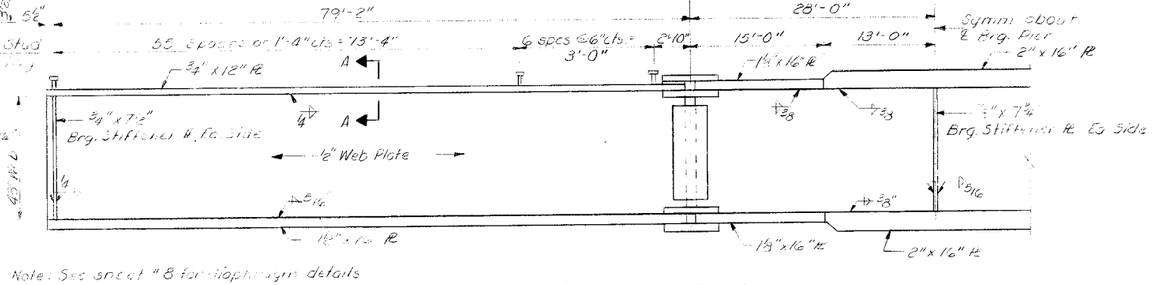
STATE OF ILLINOIS
DE[redacted]



FRAMING PLAN

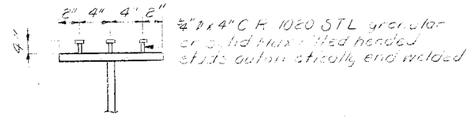


FIELD SPLICE
All fasteners shall be 7/8" H.S. Bolts

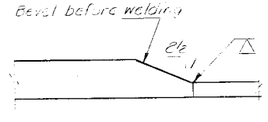


Note: See sheet "8 for diaphragm details

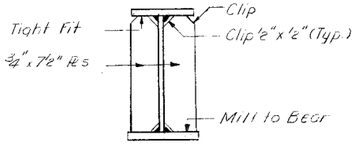
GIRDER ELEVATION



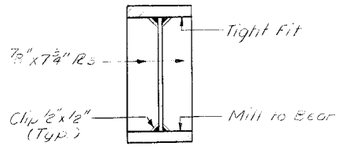
SECTION A-A



FLANGE TRANSITION DETAIL



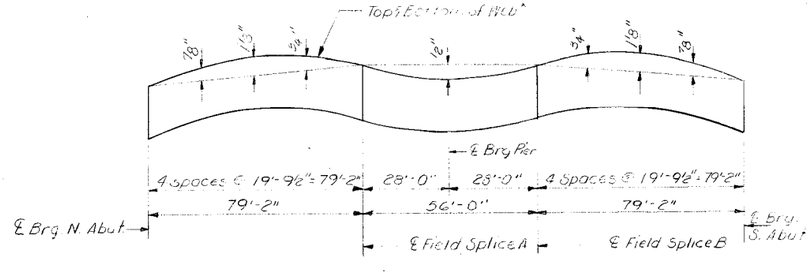
BRG STIFFENER AT ABUT.



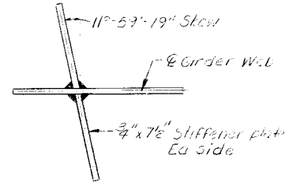
BRG STIFFENER AT PIER

TOP OF WEB ELEVATIONS
(For fabrication only)

Location \ Girder	G1	G2	G3	G4	G5
℄ Brg. N. Abut.	735.30	735.44	735.57	735.47	735.36
℄ Field Splice A	735.74	735.87	735.99	735.87	735.74
℄ Brg. Pier	735.70	735.83	735.95	735.83	735.70
℄ Field Splice B	735.74	735.87	735.99	735.87	735.74
℄ Brg. S. Abut.	735.36	735.47	735.57	735.44	735.30



CAMBER DIAGRAM
* For top of web elevations at Splice and Bearings see table on this sheet.



DETAIL A

DESIGNED	R.A.D. G.K.
CHECKED	M.P.T.
DRAWN	E.G. Robinson
CHECKED	J.M.F.

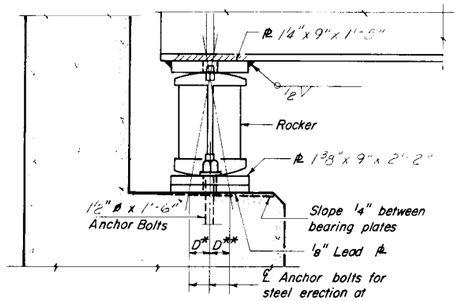
EXAMINED
PASSED
APPROVED
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
ENGINEER OF DESIGN
CHIEF HIGHWAY ENGINEER

STRUCTURAL STEEL
F.A.I. RT. 55 SEC 57-2HB
McLEAN COUNTY
STA. 714+75.07

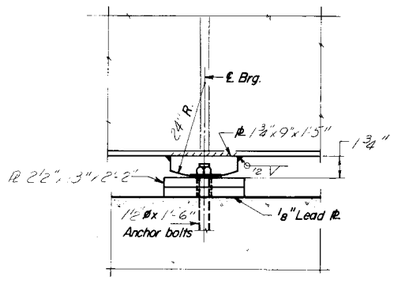
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 155	57-2HB	McLEAN	64	54
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

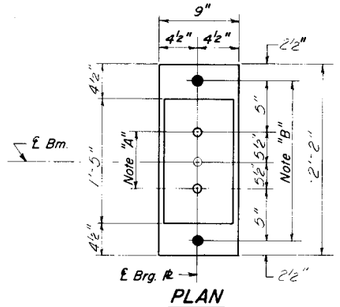
SHEET NO. 8
13 SHEETS



ELEVATION



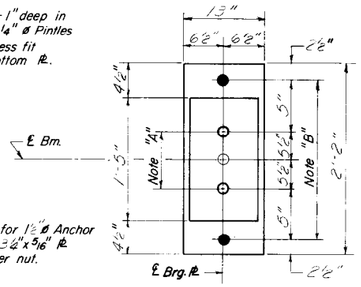
ELEVATION



PLAN AT ABUTMENTS

Note "A"
1⅜" ø Holes - 1" deep in top ℄ for 1¼" ø Pintles
Thread or press fit pintles in bottom ℄.

Note "B"
1½" ø Holes for 1¼" ø Anchor Bolts - 3½"x 3½"x 5/16" ℄ Washers under nut.

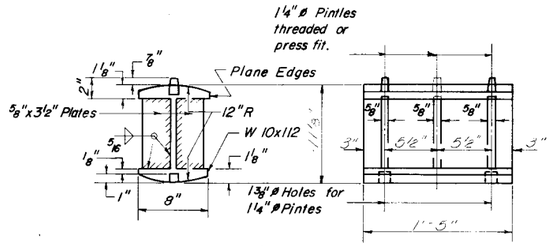


PLAN AT PIER

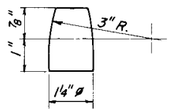
NOTES FOR SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

a.) D* (Side of brg. away from fixed brg.)
D* = ⅛" per each 100° of expansion for every 15° fall below the normal temp. of 50° F.
D** (Side of brg. toward fixed brg.)
D** = ⅛" per each 100° of expansion for every 15° rise above the normal temp. of 50° F.

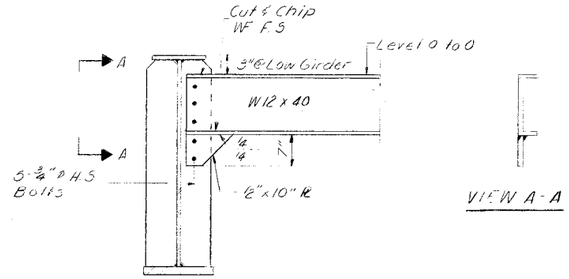
b.) After beams have been erected and dimensions D* & D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.



ROCKER



PINTLE



VIEW A-A

DIAPHRAGM - D
(8 Required)

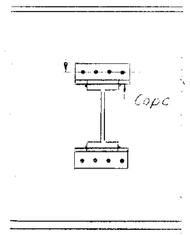
INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp.	Pier
Is (in.⁴)	19844	44629
Ic (in.⁴)	49141	
Ss (in.³)	956	1716
Sc (in.³)	1286	
ℓ (K/ℓ)	0.889	0.889
M℄ ('K)	611	1536
fs℄ (ksi)	7.7	10.8
s℄ (K/ℓ)	0.261	0.261
Ms℄ ('K)	217	353
M℄ ('K)	868	772
Mimp ('K)	186	166
Total ('K)	1273	1291
fs℄ + 5ksi	11.9	9.0
fs Total (ksi)	19.6	17.4
VR (K)	54.7	

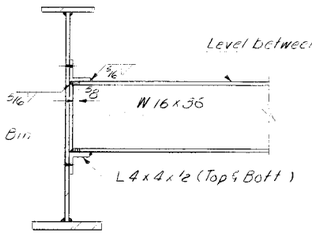
INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
R℄ (K)	44.6	153.5
R℄ (K)	41.0	70.4
Imp. (K)	8.8	15.1
R total (K)	93.3	244.0

Is and Ss are the moment of inertia and section modulus of the steel section.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs.
VR is the maximum ℄ + Impact shear range in span.

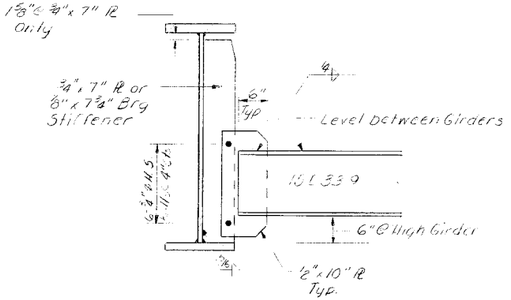
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± ⅛ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

¾" ø High Strength Bolts





INTERIOR DIAPHRAGM D_1
(32 Required)



DIAPHRAGM D_2
(4 Required)

DESIGNED	Ravi G.K
CHECKED	J.M Patel
DRAWN	Bev Robinson
CHECKED	J.M.P

I-2-G 3-29-71

19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

BEARING DETAILS
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714+75.07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	35

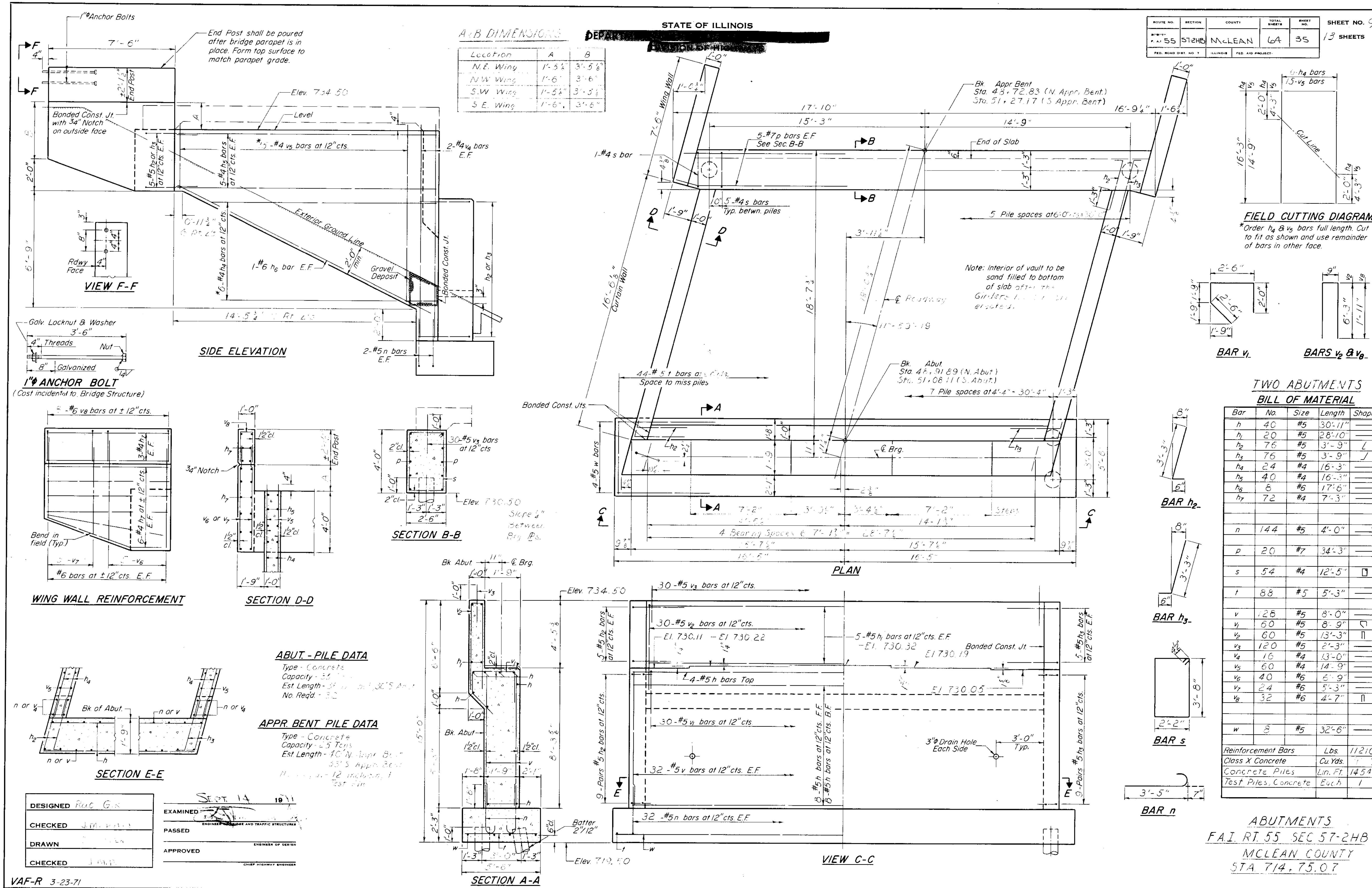
SHEET NO. 9 of 13 SHEETS

STATE OF ILLINOIS

[redacted]

A & B DIMENSIONS

Location	A	B
N.E. Wing	1'-5⅛"	3'-5⅛"
N.W. Wing	1'-6"	3'-6"
S.W. Wing	1'-5⅛"	3'-5⅛"
S.E. Wing	1'-6"	3'-6"



TWO ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	40	#5	30'-11"	——
h_1	20	#5	28'-10"	——
h_2	76	#5	3'-9"	∠
h_3	76	#5	3'-9"	⌋
h_4	24	#4	16'-3"	——
h_5	40	#4	16'-3"	——
h_6	8	#6	17'-6"	——
h_7	72	#4	7'-3"	——
n	144	#5	4'-0"	——⊃
p	20	#7	34'-3"	——
s	54	#4	12'-5"	▯
t	88	#5	5'-3"	——
v	128	#5	8'-0"	——
v_1	60	#5	8'-9"	⊓
v_2	60	#5	13'-3"	⊓
v_3	120	#5	2'-3"	——
v_4	16	#4	13'-0"	——
v_5	60	#4	14'-9"	——
v_6	40	#6	6'-9"	——
v_7	24	#6	5'-3"	——
v_8	32	#6	4'-7"	⊓
w	8	#5	32'-6"	——

Item	Unit	Quantity
Reinforcement Bars	Lbs.	11210
Class X Concrete	Cu. Yds.	[illegible]
Concrete Piles	Lin. Ft.	1454
Test Piles, Concrete	Each	1

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	[illegible]
CHECKED	[illegible]

EXAMINED Sept. 14 1971 — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES

PASSED — ENGINEER OF DESIGN

APPROVED — CHIEF HIGHWAY ENGINEER

VAF-R 3-23-71

ABUTMENTS
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714+75.07

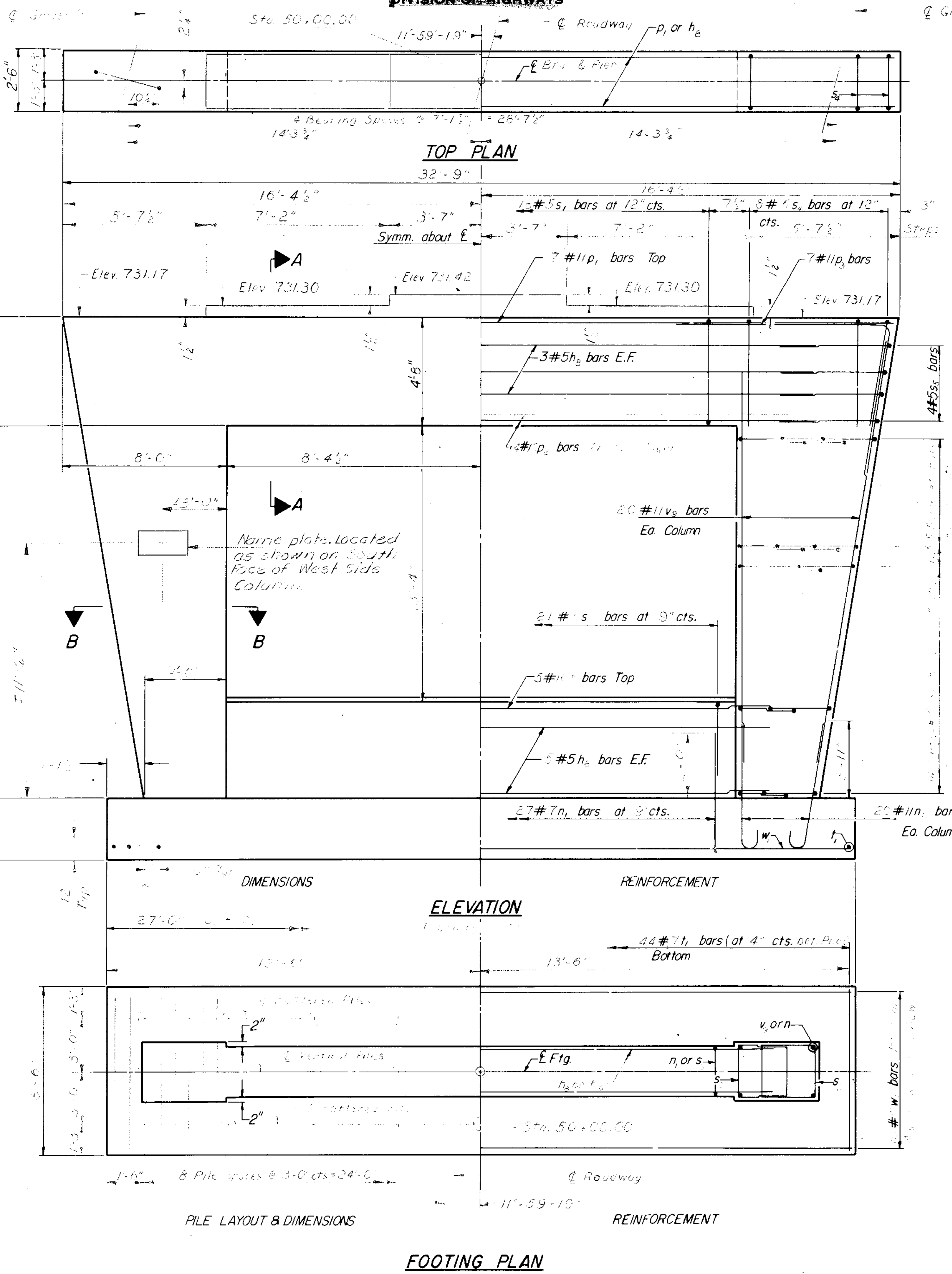
NOTES:

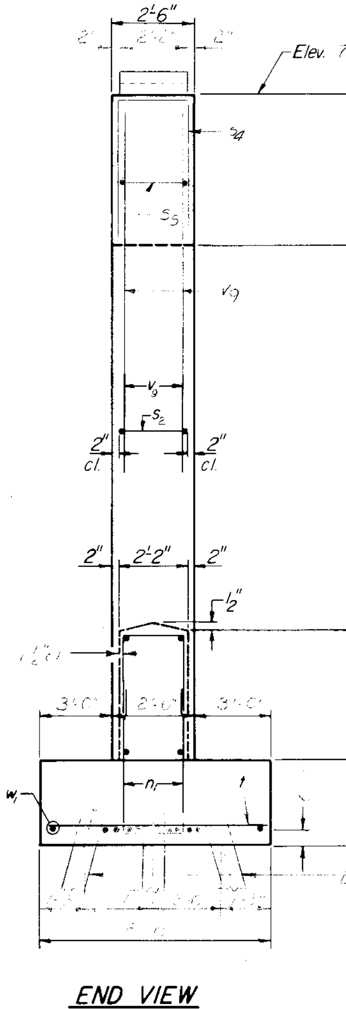
Space reinforcement in cap to miss anchor bolts.
All edges shall have standard ¾" chamfers except as noted.
Pour steps monolithically with cap.

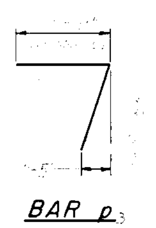
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

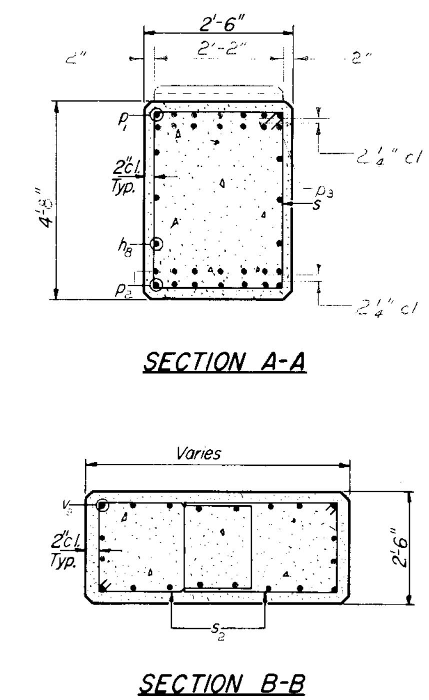
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

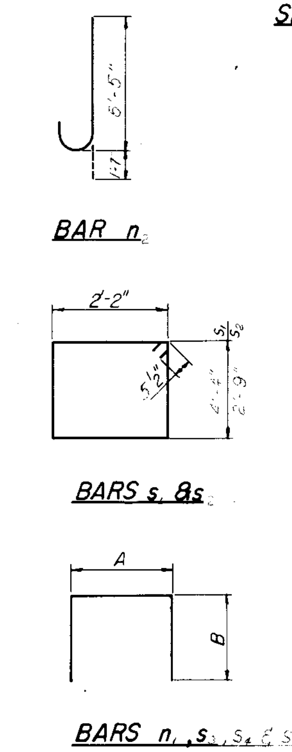
SHEET NO. 10 / 13 SHEETS











PILE DATA

Type
Capacity
Est. Length
No. Required - 27 including 1 Test Pile

DESIGNED		EXAMINED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
CHECKED		PASSED	ENGINEER OF DESIGN
DRAWN		APPROVED	CHIEF HIGHWAY ENGINEER
CHECKED			

P-11 11-18-69

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_8	16	#5	24'-9"	—
h_9	5	#10	24'-0"	—
n_1	21	#7	11'-1"	⊔
n_2	40	#11	8'-0"	⊃
p_1	7	#11	32'-6"	—
p_2	14	#10	24'-9"	—
p_3	14	#11	22'-3"	⌐
s_1	18	#5	13'-11"	◻
s_2	86	#5	10'-9"	◻
s_3	21	#5	12'-5"	⊓
s_4	16	#5	11'-2"	⊓
s_5	8	#5	12'-7"	⊓
t_1	44	#7	8'-3"	—
v_9	40	#11	22'-3"	—
w_1	10	#8	26'-9"	—
Name Plates			Each	1
Class X Concrete			Cu. Yds.	65.6
Reinforcement Bars			Lbs.	15430
Concrete Piles			Lin. Ft.	650
Test Piles, Concrete			Each	1

A&B DIMENSIONS

Bar	A	B
n_1	1'-11"	4'-7"
s_3	1'-11"	5'-3"
s_4	2'-2"	4'-6"
s_5	2'-1"	5'-3"

PIER
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA 714+75.07

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 55	57-2HB	McLEAN	64	37
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 11
18 SHEETS

Boring No. 1
Station 48+74.7
Offset 12' Rt. ℄

Surface Water El. ____
Groundwater El. at
Completion -6.0'
After 24 Hours -6.0'

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 710.0				
BROWN SILTY CLAY w/tr. Sand & fine Gravel (Moist,Med.)	4	E 1.0	21	5
(V.Wet,Med.) 705.0	7	B 0.58	31	20
GREY-BLACK SILTY CLAY w/tr.fine to coarse Sand (Moist,Stiff)	13	B 0.97	24	50
Water ▽				
(Wet,Med.) 700.5	5	B 0.24 / 0.48	27 / 27	100
GREY SANDY LOAM w/fine to coarse Sand & fine Gravel (Moist,Med.) 697.5	27	S 0.58	16	50
GREY SILTY CLAY LOAM w/fine to coarse Sand & tr/fine Gravel (Damp,Hard) -15	41	S 4.61	13	50
(Damp,Hard)	46	B 6.64	13	80
(Damp,Hard) -20	54	S 10.45	12	100
(Damp,Hard)	48	B 6.55	13	100
GREY SILT (Wet,Hard) 687.0 -25	44	S 5.43	25	100
(Moist,V.Stiff)	22	S 2.52	23	100
(Moist,Stiff) -30	11	S 1.84	24	80
(Wet,V.Stiff) 677.0	21	S 2.48	26	80
GREY ,fine to coarse SAND w/tr. fine Gravel (Medium) -35	29	—	—	100
GREY, fine to coarse SAND& fine Gravel (V.Dense) 674.0	63	—	—	100
(Medium) -40	27	—	—	100
GREY CLAY LOAM w/fine to coarse Sand (Damp,Hard)	67	S 6.30	11	100
(Dry,Hard) 45	151	S 5.33	9	100
(Dry,Hard) 663.0	160	S 7.76	9	50
END OF EXPLORATION				

Boring No. 2
Station 48+96.3
Offset 12' Lt. ℄

Surface Water El. ____
Groundwater El. at
Completion -6.2'
After 24 Hours -6.0'

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 710.2				
BROWN SILTY CLAY w/tr. Sand & fine Gravel (Wet,Med.)	7	B 1.12	29	50
(Moist,Stiff) -5	10	B 2.52	20	50
(Moist,Stiff) 702.7	10	B 1.02	24	50
GREY SILTY CLAY w/trfine to med. Sand) (Wet,Med.) 700.7	2	B 0.34	27	100
GREY SANDY LOAM -10 (loose) 699.7	4	0.39 S		
GREY,fine to coarse SAND & fine GRAVEL (Dense)	33	—	—	100
(Dense) -15 694.7	41	—	—	100
GREY SILTY LOAM w/fine to Coarse Sand & tr/fine Gravel (Damp,Hard)	63	B 6.93	12	100
690.2 -20	59	—	—	
GREY SILT w/tr.Gravel (Moist,Hard) -25	62	S 5.09	18	100
(Moist,Hard)	42	S 3.64	21	80
(Wet,Hard)	32	S 3.64	29	100
(Moist,V.Stiff) -30	26	S 2.67	24	100
(Moist,Hard) 676.7	34	S 2.18	20	100
GREY SAND,fine to medium (Med.) -35	14	—	—	50
GREY,fine to coarse SAND & fine GRAVEL (V.Dense) 673.7	59	—	—	100
(V.Dense) -40	55	—	—	100
GREY CLAY LOAM w/fine to med. Sand (Damp,Hard) 669.7	101	B 6.55	10	100
(Dry,Hard) 665.7	349	S	12	9 100
4"penetration=134N -45				
END OF EXPLORATION				

Boring No. 3
Station 50+02
Offset 12' Rt. ℄

Surface Water El. ____
Groundwater El. at
Completion -6.0'
After 24 Hours -6.0'

Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 710.0				
BROWN TO DARK BROWN SILTY CLAY w/trace Sand & fine Gravel (Wet,Stiff)	8	B 1.21	26	50
(Moist,Soft) ▽ -5	2	E 0.3	23	20
Water 703.5				
GREY-BLACK SILTY CLAY w/trace fine to coarse Sand(V.Wet,Stiff)	8	B 1.07	34	20
(V.Wet,Hard) 700.5	40	B 0.73	39	100
GREY SANDY LOAM -10 w/fine to coarse Sand & tr/Gravel (Damp,Medium) 697.5	59 / 15	S 0.78	14	100
GREY SILTY CLAY LOAM w/fine to coarse Sand & tr/fine Gravel (Damp,V.Stiff) -15	24	B 5.43	12	100
(Damp,Hard)	32	B 7.13	13	100
GREY SILT (Wet,V.Stiff) -20	27	S 5.04	26	100
(Moist,Hard)	26	S 4.36	21	100
(Moist,V.Stiff) 684.5 -25	26	S 2.38	23	100
GREY CLAY LOAM w/fine to coarse Sand (Damp, Hard)	80	E,S 13.0	10	100
681				
GREY to GREY-BROWN CLAY LOAM w/tr fine Gravel & Some Sand seams (Damp,Hard) -30	144	E,S 13.0	10	100
(Damp, Hard)	121	E,S 13.0	10	100
-35				
-40				
45				
Augered to depth of 55 ft. No change in hard material.				
-50				
-55				
END OF EXPLORATION				

N-Standard Penetration Test-Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 # hammer falling 30".

Qu-Unconfined Compressive Strength-t/sf
w-Water Content-percentage of oven dry weight-%.

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	[illegible]
CHECKED	[illegible]

EXAMINED Sept 14 19[illegible]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED
ENGINEER OF DESIGN

APPROVED
CHIEF HIGHWAY ENGINEER

BORING DATA
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714+75.07

K & E CO. 19-1255

STATE OF ILLINOIS

[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
13 SHEETS

Boring No. 4
Station 50+98.8
Offset 12' Lt. ℄

Surface Water El.
Groundwater El. at Completion -5.0'
After 24 Hours -5.0'

Description	Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 710.2	0				
BROWN SILTY CLAY w/traces of Sand & Gravel (Moist, Medium)		6	B 0.48	24	50
(Moist, Stiff) 705.2	-5	15	S 3.49	16	100
BLACK SILTY CLAY w/traces of fine to coarse Sand (V.Wet, Med.) 702.2		8	B 1.02	33	50
GREY SILTY CLAY (Moist, Med.) 700.7 ▽		7	B 0.82	15.8	
BROWN SANDY LOAM w/fine to coarse Sand & fine Gravel (Moist, Med) 699.2	-10	9	0.82	17.2	100
Brown, Fine to coarse SAND & fine GRAVEL (Med.) 697.2		18	–	–	100
GREY SILTY CLAY LOAM w/fine to coarse Sand (, Hard) 694.2	-15	43	S 10.19	11	100
GREY SILTY FINE SAND 693.2		36	–	–	
GREY SILTY LOAM w/fine to coarse Sand & traces of fine Gravel		57	6.0 E	13.0	100
(Dry, Hard) 690.2	-20	127	S 8.25	8	100
(Damp, Hard) 687.7		161	E,S 13.0	11	100
(Dry Hard) 685.2	-25	157	E,S 13.0	9	100
END OF EXPLORATION					
	-30				
	-35				
	-40				

Boring No. 5
Station 51+29.0
Offset 12' Rt. ℄

Surface Water El.
Groundwater El. at Completion -5.0'
After 24 Hours -5.0'

Description	Elevation	N	Qu(t/sf)	w(%)	Recovery
Ground Surface 710.0	0				
BROWN SILTY CLAY w/fine to coarse Sand (Moist, Med.)		6	S 1.02	21	10
(Wet, Med.) 703.5	-5	5	B 0.92	28	100
GREY CLAY w/fine to Med. Sand (Wet, Med.) 701.0		5	B 0.78	26	100
SILTY CLAY LOAM, GREY (Moist, V.Stiff) 700.0 ▽	-10	19	S 2.04	23	100
BROWN SANDY LOAM 699.0					
BROWN, fine to coarse SAND & fine Gravel (Med.) 697.0		23	-	-	100
GREY SILTY CLAY & fine to coarse Sand (Damp, Hard) 694.0	-15	30	B 6.16	12	100
GREY, fine to coarse SAND & fine Gravel (V. Dense) 692.5		75	-	-	100
GREY SILTY LOAM w/fine to coarse Sand & fine Gravel (Dry, Hard)	-20	83	S 5.82	9	100
(Dry, Hard)		44	S 12.0	8	100
(Dry, Hard) 685.0	-25	180	S 8.25	8	100
END OF EXPLORATION					
	-30				
	-35				
	-40				

N-Standard Penetration Test-Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 # hammer falling 30"

Qu-Unconfined Compressive Strength—t/sf
w-Water Content-percentage of oven dry weight-%

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

19

EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED
ENGINEER OF DESIGN

APPROVED
CHIEF HIGHWAY ENGINEER

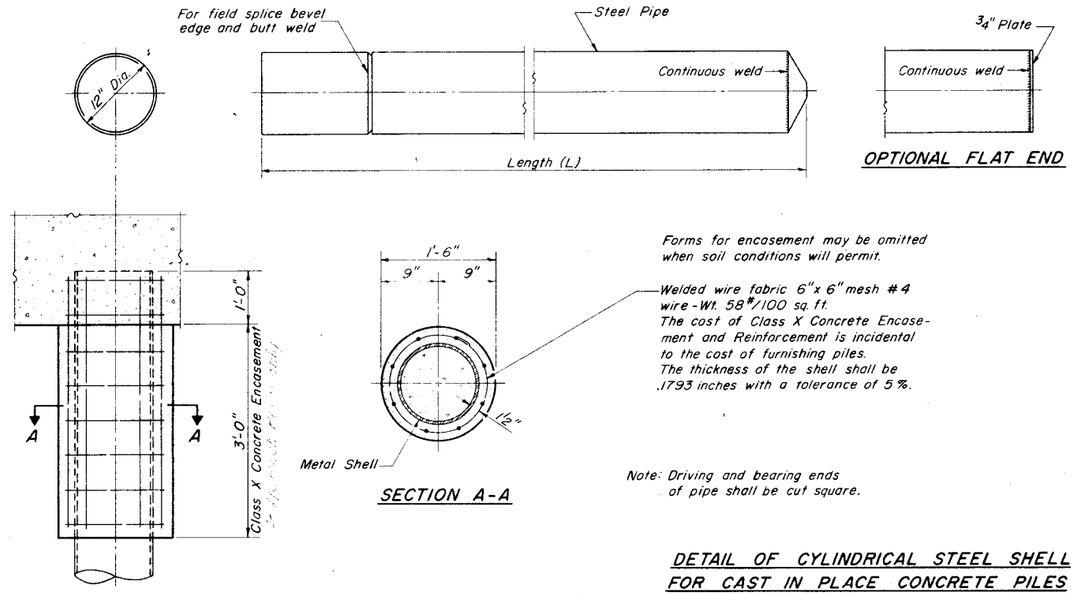
BORING DATA
F.A.I. RT. 55 SEC. 57-2HB
McLEAN COUNTY
STA. 714+75.07

K & E CO. 19-1255

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.55	51-2HC	McLEAN	69	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
13 SHEETS

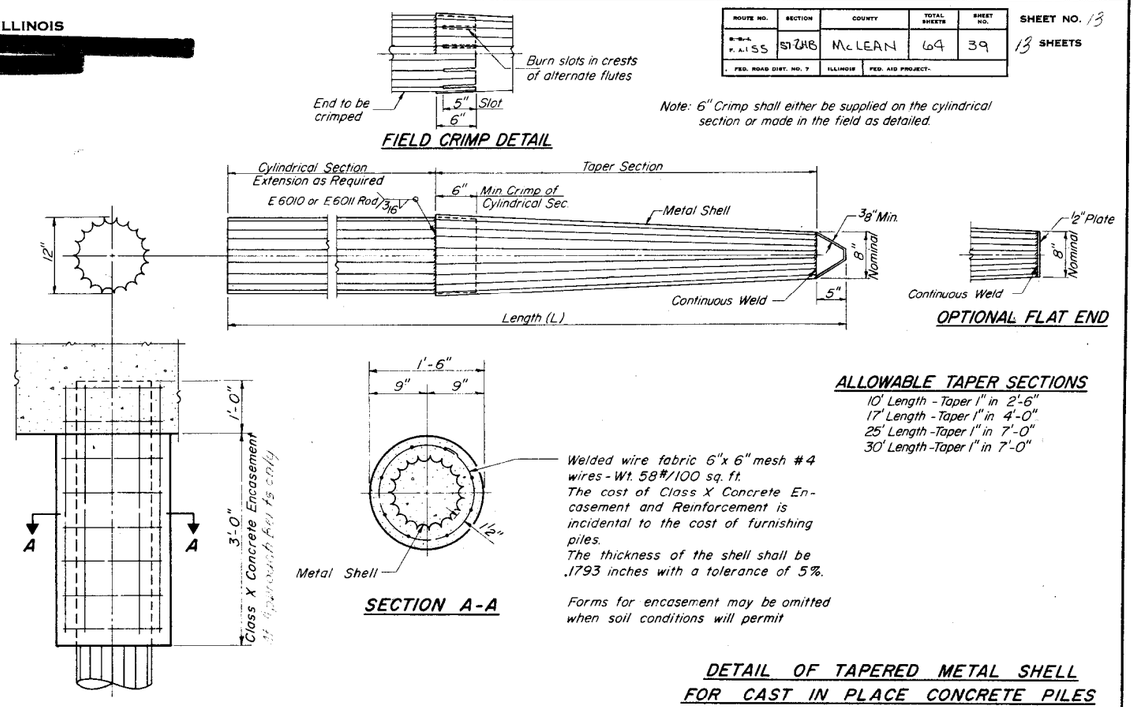


Forms for encasement may be omitted when soil conditions will permit.

Welded wire fabric 6"x 6" mesh #4 wire - Wt. 58#/100 sq. ft. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. The thickness of the shell shall be .1793 inches with a tolerance of 5%.

Note: Driving and bearing ends of pipe shall be cut square.

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.

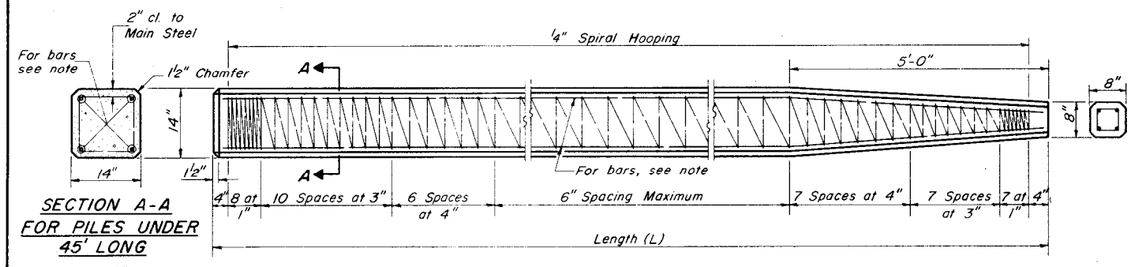
ALLOWABLE TAPER SECTIONS

10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

Welded wire fabric 6"x 6" mesh #4 wires - Wt. 58#/100 sq. ft. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. The thickness of the shell shall be .1793 inches with a tolerance of 5%.

Forms for encasement may be omitted when soil conditions will permit

DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONCRETE PILES



Note: For 14" Piles 45' long or more use 8-#8 bars 4 for the full length and 4 to the point of bevel. For 14" Piles under 45' long use 4-#9 bars full length.

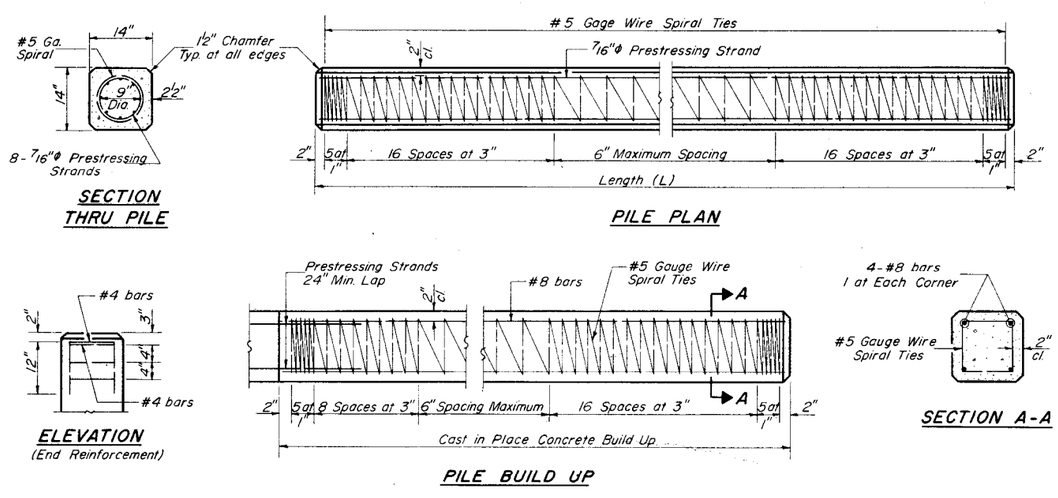
Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end.
For Piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at mid-point of pile.

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED Sept. 4 19
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED H.E. Baumann
ENGINEER OF DESIGN
APPROVED
DIVISION HIGHWAY ENGINEER

X-2 2-14-69

DETAIL OF PRECAST CONCRETE PILES



DESIGN STRESSES

f'_c = 5,000 psi.
f'_{ci} = 4,000 psi.
f'_s = 268,000 psi. (31,000 lbs.)
f'_{si} = 188,000 psi. (21,700 lbs.)

Note: Prestressing steel shall be non-galvanized extra high strength stress-relieved 7 wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.1155 square inch.

Handling: For pile lengths up to 65', use two slings placed at a distance of 0.21 L from each end. For piles longer than 65', use three slings placed at a distance of 0.12 L from each end at midpoint of pile.

PILE DETAILS

F.A.I. RT. 55 SEC. 51-2HC
McLEAN COUNTY
STA. 714+75 OT

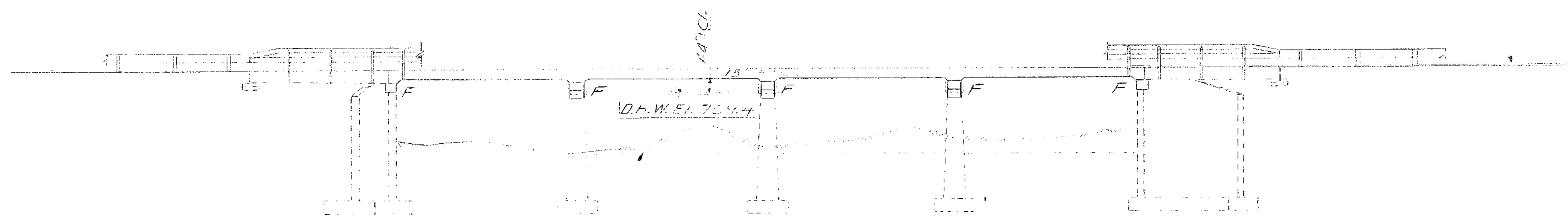
DETAIL OF PRECAST PRESTRESSED CONCRETE PILES

STATE OF ILLINOIS

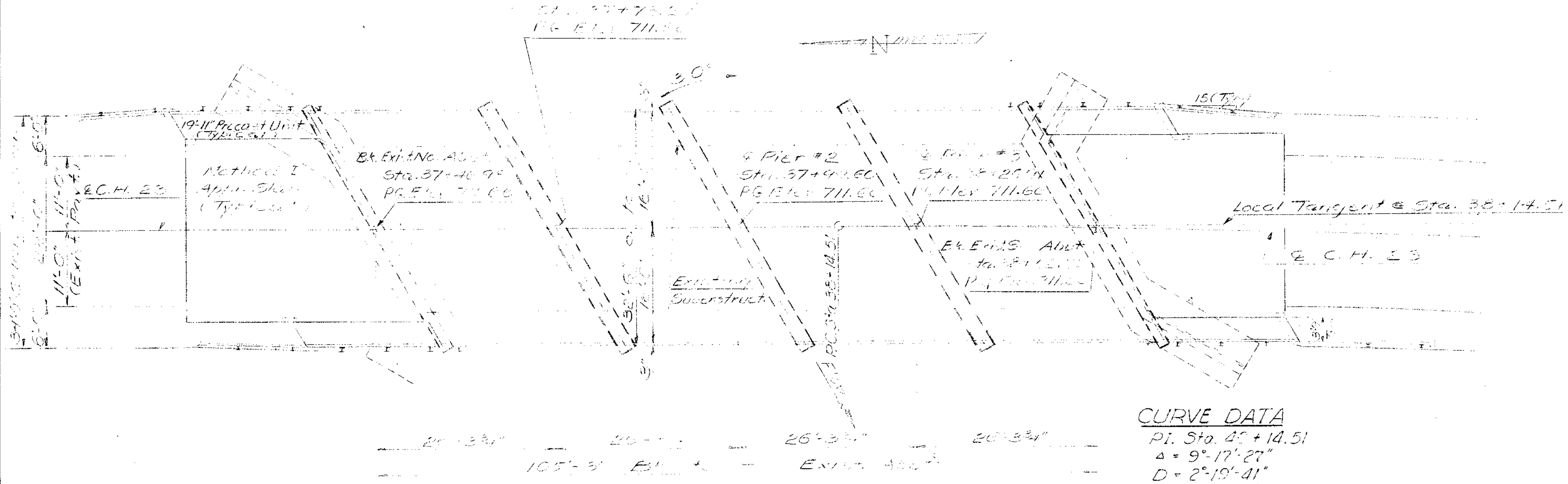
[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1 of 8 SHEETS



ELEVATION



PLAN

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.	Total
Concrete Removal	Cu Yds.		31	31
Expansion Bolts (⅝")	Each		164	164
Class X Concrete	Cu. Yds.	169.6	53.3	[illegible]
Precast Concrete Bridge Slab	Sq. Ft.	2[illegible]		2[illegible]
Steel Railing, Type N	Lin. Ft.	289		289
Reinforcement Bars	Lbs.	37360	7150	44510
Removal of Existing Superstructures	Each	1		1
* Protective Coat	Sq. Yds.	396		396
Name Plates	Each			1

* Bk. to Bk. existing Abutments.

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

Expansion bolts shall consist of self drilling expansion anchors and ⅝" hooked bolts. Hooked bolts shall extend a minimum of 12" into new concrete unless otherwise shown.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection.

Adequate struts shall be placed between the abutments and piers before the existing superstructure is removed to prevent damage to abutments from unrestrained earth pressure. Cost Incidental.

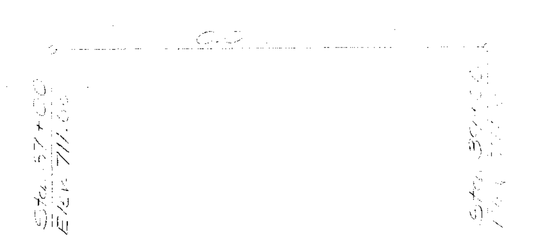
CURVE DATA

P.I. Sta. 42+14.51
Δ = 9°-17'-27"
D = 2°-19'-41"
R = 2461.22'
T = 200.00'
L = 399.00'

STATION 37+99.80
TURKEY CREEK
BUILT 19
F.A.S. RT. 356 SEC. 57-2BR
F.A. PROJ. S-356(101)
LOADING HS20

NAME PLATE

See Std. 2113

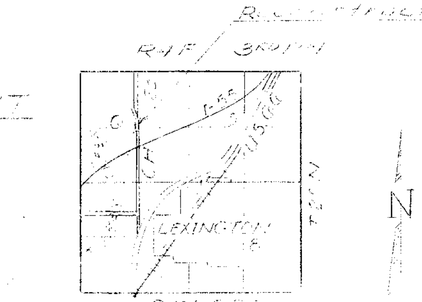


WATERWAY INFORMATION

DESIGN STRESSES

FIELD UNITS	PRECAST UNITS
f'c = 1400 psi (super)	f'c = 4500 [illegible]
f'c = 1400 psi (sub)	f'c = [illegible]
fs = 20,000 psi (reinf.)	fs = [illegible]
n = 10	n = [illegible]

Loading HS20-44



LOCATION SKETCH

GENERAL PLAN & ELEVATION
PROJECT S-356(101)
C.H. 23 OVER TURKEY CREEK
C.H. 23 SECTION 57-2BR
McLEAN COUNTY
STA. 37+99.80

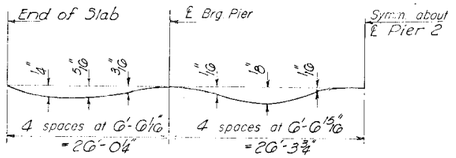
DESIGNED		EXAMINED	19
CHECKED		PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES / ENGINEER OF DESIGN
DRAWN		APPROVED	CHIEF HIGHWAY ENGINEER
CHECKED			

K & E CO. 19-1255

STATE OF ILLINOIS
DEP[redacted]

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	ST-2BR	McLEAN	64	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 2
8 SHEETS



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

EDGE OF EAST CURB

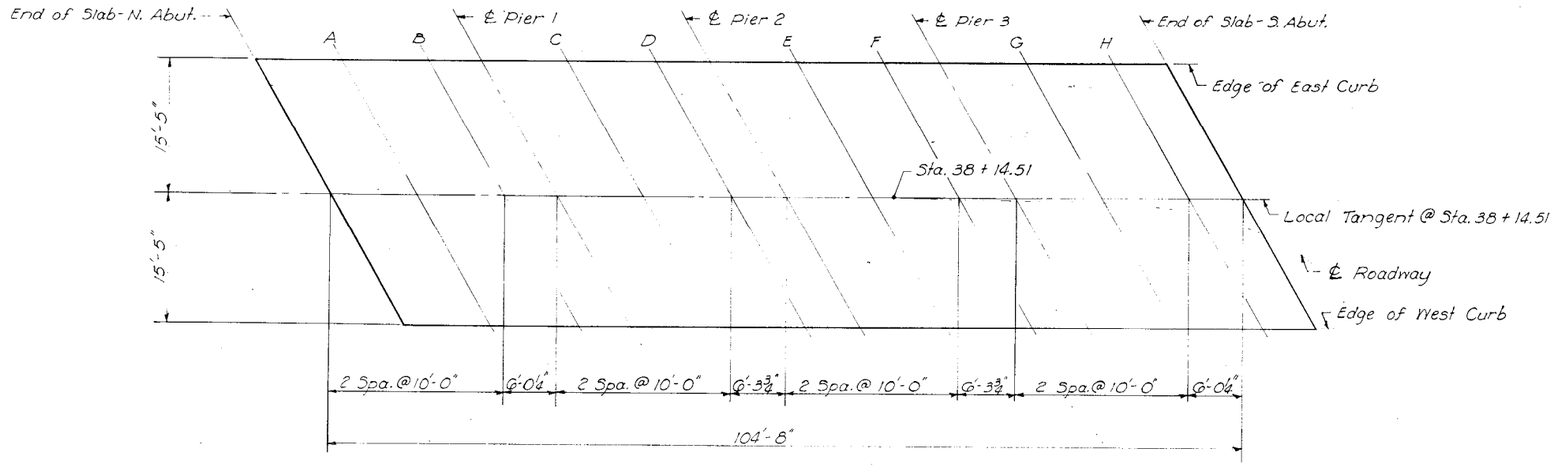
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of Slab-N. Abut.	3738.368	-15.417	711.419	711.419
A	3748.368	-15.417	711.472	711.498
B	3758.368	-15.417	711.531	711.546
℄ Pier 1	3764.392	-15.417	711.567	711.567
C	3774.392	-15.417	711.626	711.632
D	3784.392	-15.417	711.685	711.691
℄ Pier 2	3790.704	-15.417	711.722	711.722
E	3800.704	-15.417	711.782	711.789
F	3810.704	-15.417	711.841	711.844
℄ Pier 3	3816.994	-15.418	711.878	711.878
G	3826.931	-15.448	711.937	711.960
H	3836.868	-15.519	711.998	712.020
End of Slab-S. Abut.	3842.854	-15.581	712.033	712.035

℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of Slab-N. Abut.	3747.269	0.0	711.660	711.660
A	3757.269	0.0	711.660	711.686
B	3767.269	0.0	711.660	711.675
℄ Pier 1	3773.293	0.0	711.660	711.660
C	3783.293	0.0	711.660	711.666
D	3793.293	0.0	711.660	711.666
℄ Pier 2	3799.605	0.0	711.660	711.660
E	3809.605	0.0	711.660	711.668
F	3819.605	0.0	711.660	711.664
℄ Pier 3	3825.910	-0.326	711.660	711.660
G	3835.909	-0.293	711.662	711.685
H	3845.908	-0.270	711.665	711.687
End of Slab-S. Abut.	3851.931	-0.285	711.668	711.668

EDGE OF WEST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of Slab-N. Abut.	3756.170	15.417	711.374	711.374
A	3766.170	15.417	711.347	711.373
B	3776.170	15.417	711.320	711.334
℄ Pier 1	3782.194	15.417	711.303	711.303
C	3792.194	15.417	711.276	711.283
D	3802.194	15.417	711.249	711.255
℄ Pier 2	3808.506	15.417	711.232	711.232
E	3818.506	15.417	711.205	711.213
F	3828.506	15.417	711.178	711.181
℄ Pier 3	3834.938	15.332	711.163	711.163
G	3845.000	15.229	711.140	711.162
H	3855.061	15.085	711.118	711.139
End of Slab-S. Abut.	3861.121	14.978	711.106	711.106



PLAN

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	jacobs
CHECKED	JP

19
EXAMINED
PASSED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

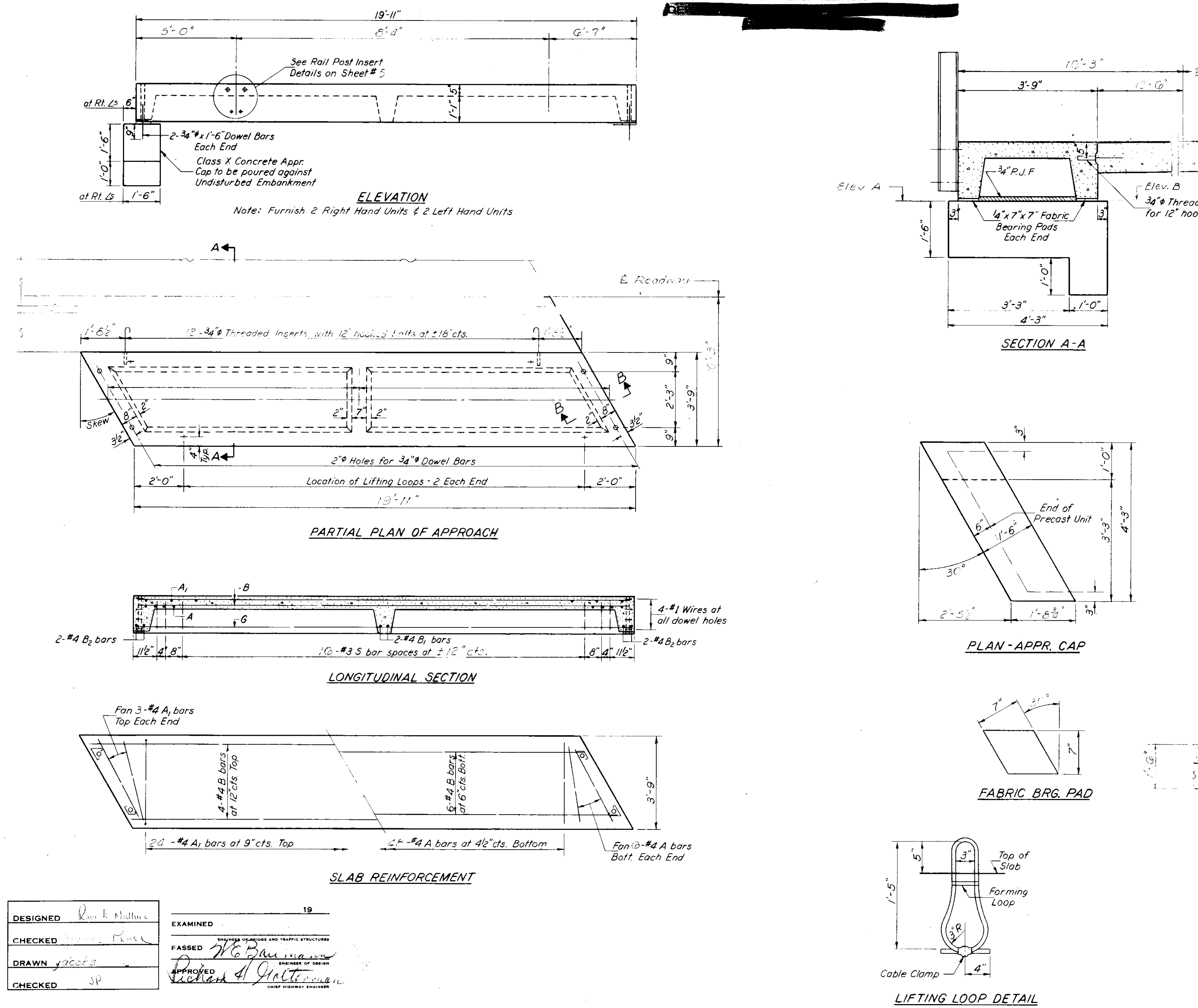
TOP OF DECK ELEVATIONS
C.H. 83 SEC. 57-2BR
McLEAN COUNTY
STA. 37 + 99.60

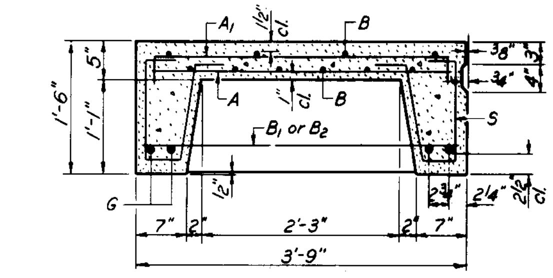
STATE OF ILLINOIS

[redacted]

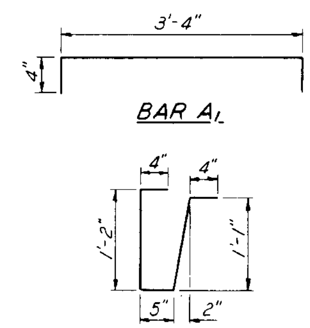
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 3
8 SHEETS





	Elev. A	Elev. B
N.E. Unit	709.88	709.94
N.W. Unit	709.65	709.94
S.E. Unit	710.54	710.44
S.W. Unit	709.56	709.67



BAR LIST - ONE UNIT

Reinforcement to be cast into slab

Bar	No	Size	Length	Shape
A	60	#4	3'-3"	——
A1	30	#4	4'-0"	⌐¬
B	10	#4	19'-8"	——
B1	2	#4	3'-6"	——
B2	4	#4	4'-0"	——
G	4	#10	19'-8"	——
S	42	#3	3'-4"	[illegible]

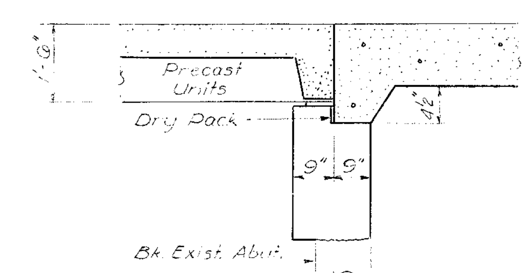
NOTES

Unless otherwise approved by the Engineer, lifting loops shall be 1/2"φ, 6x19 class wire rope with fiber core and shall have a minimum ultimate strength of 18,700 lbs. Loops shall be burned off after slab has been erected.

Holes shall be drilled and anchor dowels grouted in place.

Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and 3/4"φ hooked bolts is included in Unit bid price for "Precast Concrete Bridge Slab."

The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.



BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	299
Class X Concrete	Cu. Yd.	19

STRESSES

f_c = 4,500 psi.
f_c = 1,800 psi.
f_s = 20,000 psi.
n = 8

LOADING HS-20

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Jacobs
CHECKED	JP

EXAMINED ______ 19__

PASSED W. E. Baumann — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

ENGINEER OF DESIGN

APPROVED Richard H. Golterman — CHIEF HIGHWAY ENGINEER

APPROACH DETAILS

C.H. 23 SEC. 57-2BR
McLEAN COUNTY
STA. 37+99.60

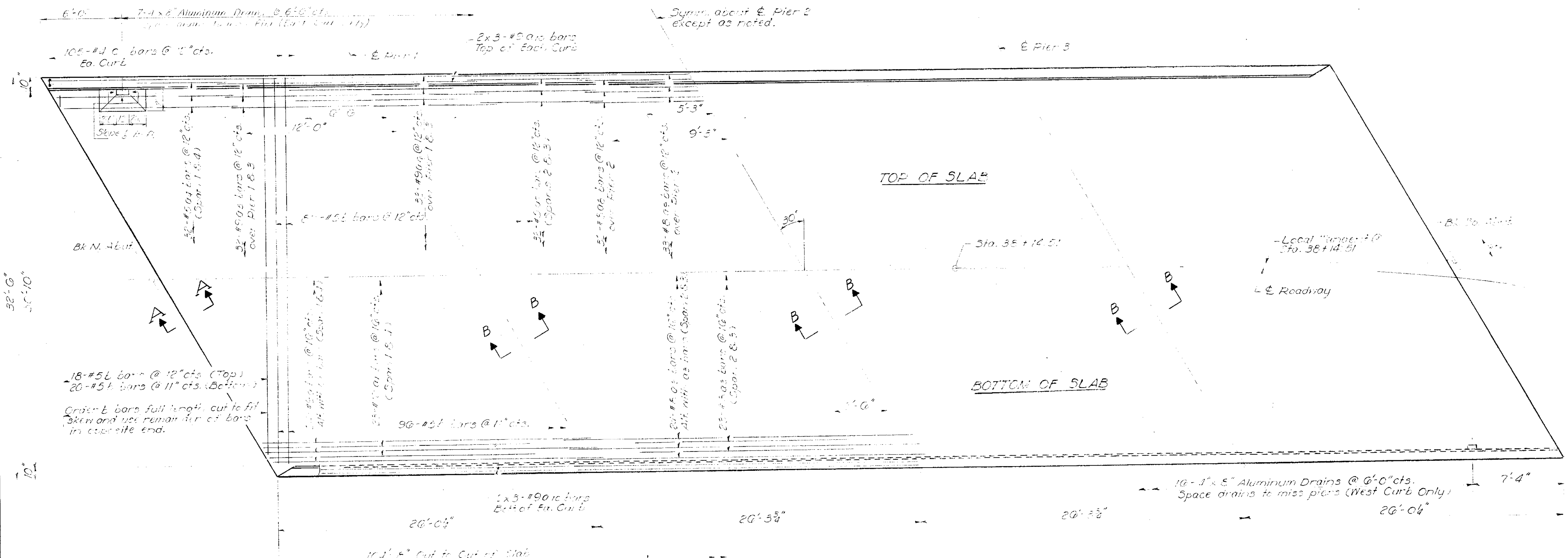
AP-2 20' Precast Appr. Unit (Skewed R.F.) (5-15-71)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

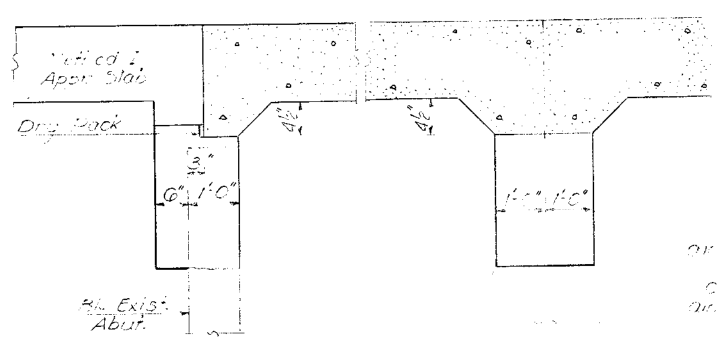
SHEET NO. SHEETS

STATE OF ILLINOIS

[redacted]

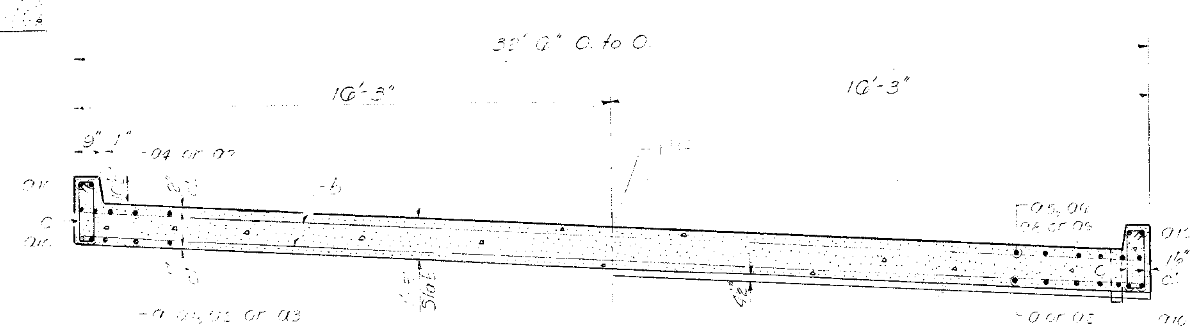


PLAN



SECTION A-A

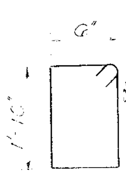
SECTION B-B



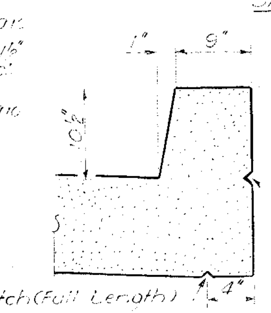
AT MIDSPAN

NEAR PIERS

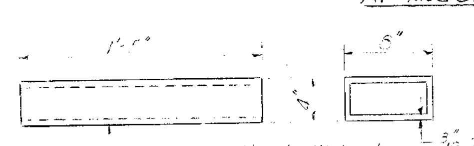
CROSS SECTION
(Looking South)



BAR C



CURB DETAIL



FLOOR DRAIN

Cost included in Class X Concrete

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	48	#9	27'-0"	———
a1	46	#10	22'-0"	———
a2	48	#8	28'-6"	———
a3	46	#8	19'-3"	———
a4	64	#5	15'-3"	———
a5	64	#9	21'-3"	———
a6	66	#9	11'-9"	———
a7	64	#5	10'-3"	———
a8	33	#8	18'-6"	———
a9	33	#8	10'-6"	———
a10	24	#9	36'-3"	———
b	221	#5	32'-3"	———
c	210	#4	5'-5"	▭
Class X Concrete			Cu. Yds.	162.2
Reinforcement Bars			Lbs.	37360

SUPERSTRUCTURE
C.H. 23 SEC. 57-2BR
McLEAN COUNTY
STA. 37+99.60

DESIGNED	
CHECKED	
DRAWN	Jacobs
CHECKED	

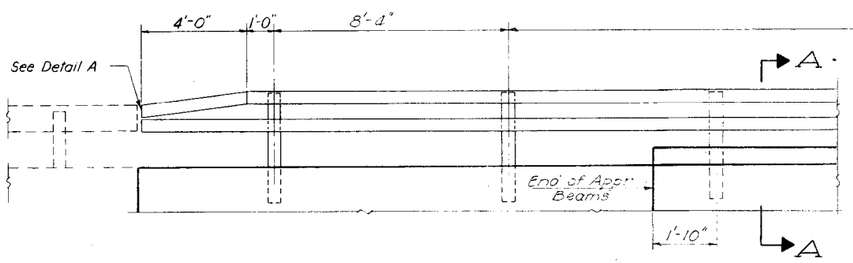
EXAMINED 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W. E. Baumann
ENGINEER OF DESIGN
APPROVED Richard H. Golterman
CHIEF HIGHWAY ENGINEER

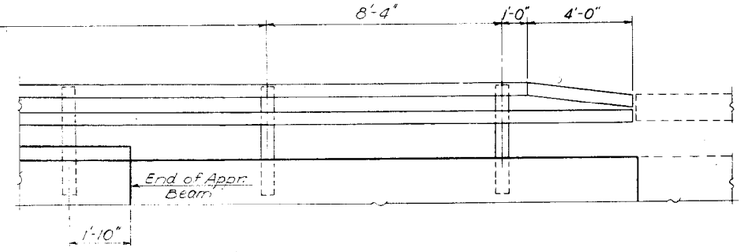
K & E CO. 19-1255

STATE OF ILLINOIS
DEPART[redacted]

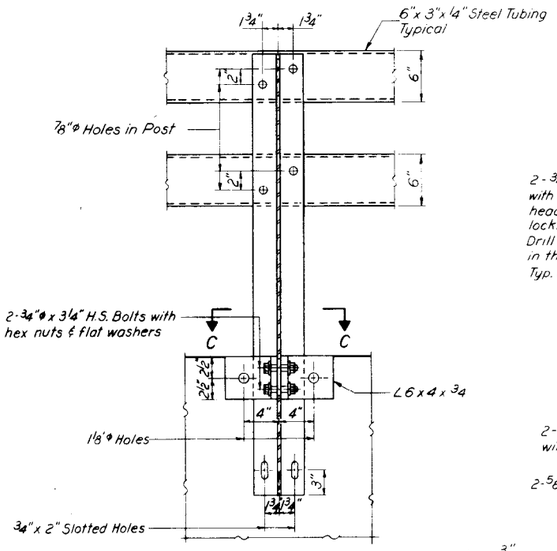
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	44
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
8 SHEETS

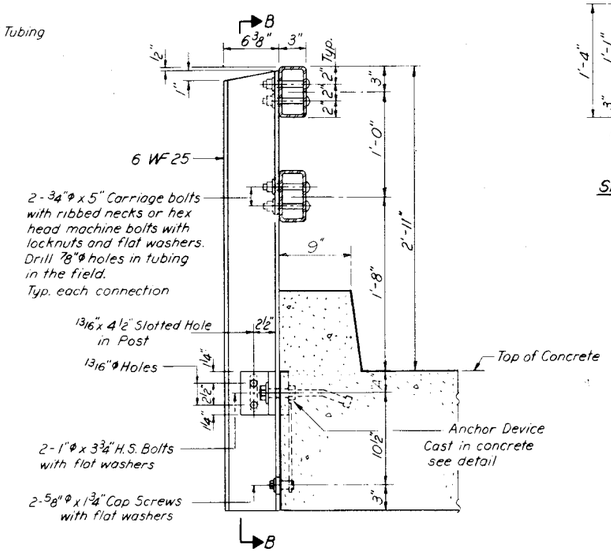




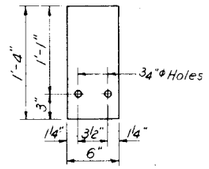
ELEVATION
Showing inside face of railing



SECTION B-B



SECTION A-A



SHIM DETAIL

DIMENSION "A"	
Precast Unit	2½"
Cast in Place Slab	1½"

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-501 "Hot Formed Welded and Seamless Carbon Steel Structural Tubing."

All other steel shapes and plates shall conform to the requirements of ASTM designation A-36 except posts shall conform to ASTM A-441.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to ASTM designation A-325.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with ASTM designation A-153.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with ASTM designation A-123 and A-385. Galvanized rail shall not be painted.

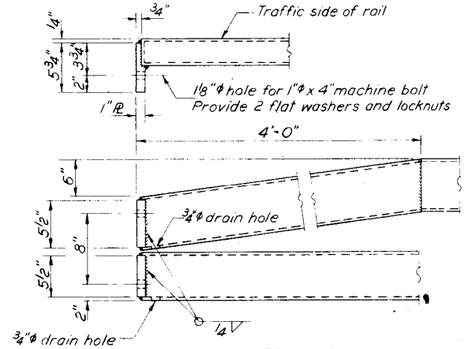
Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE N

All field drilled holes shall be coated with an approved zinc rich paint before erection.

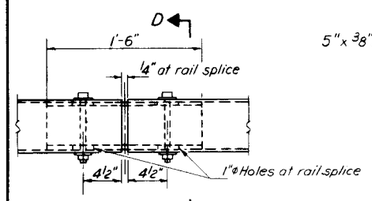
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place ⅛" fabric bearing pad between the post and concrete.

The ¾"ø high strength bolts used to connect the 6 x 4 x ¾ angles to the post shall be tightened in accordance with Article 710.11 of the Standard Specifications. The 1"ø high strength bolts connecting the angles to the concrete beam shall be tightened to a snug fit and given an additional ⅛ turn.

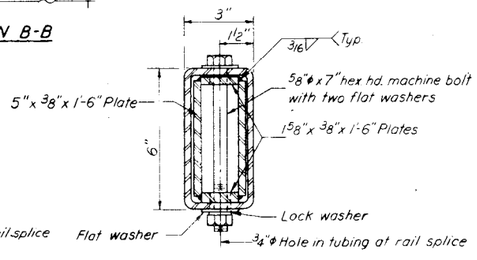
For multi-span bridges, sufficient ¼"x 6"x 1'-4" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.



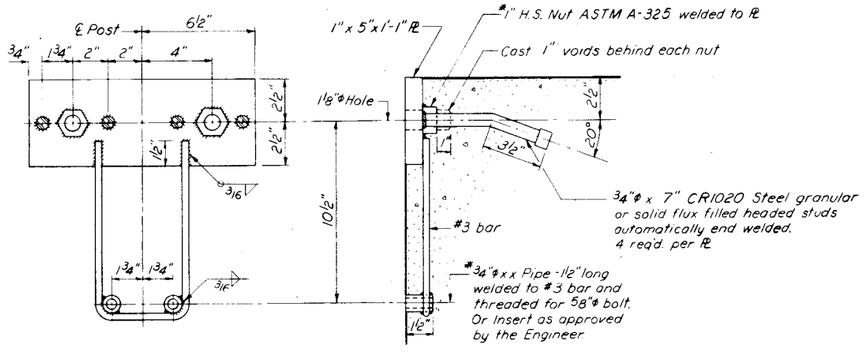
DETAIL A



RAIL SPLICE

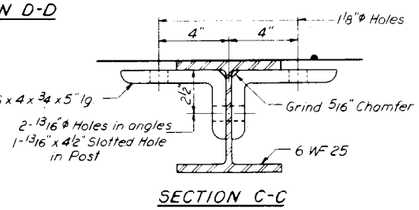


SECTION D-D



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.



SECTION C-C

DESIGNED	Rank Mallo...
CHECKED	[illegible]
DRAWN	jacobs
CHECKED	JV

19
EXAMINED
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED W.E. Peterman
ENGINEER OF DESIGN
APPROVED [illegible]
CHIEF HIGHWAY ENGINEER

(9'-0" Max Post Spacing)

BILL OF MATERIAL

Item	Unit	Quantity
STEEL RAILING, TYPE N	Lin. Ft.	269

TYPE N STEEL RAILING

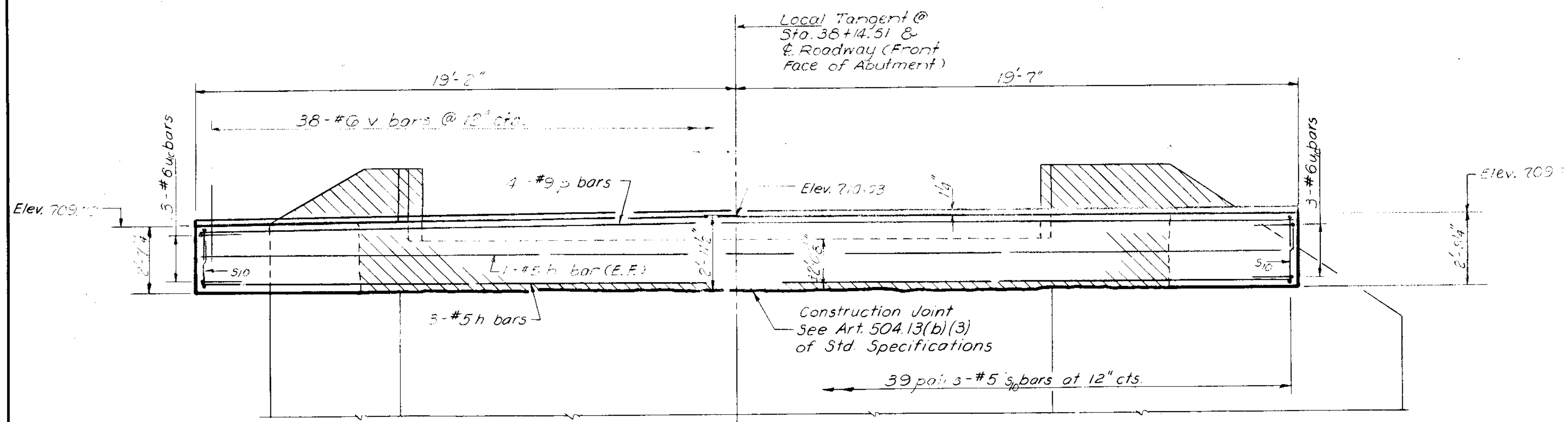
C.H. 23 SEC. 57-2BR
McLEAN COUNTY
STA. 37+99.60

R-2

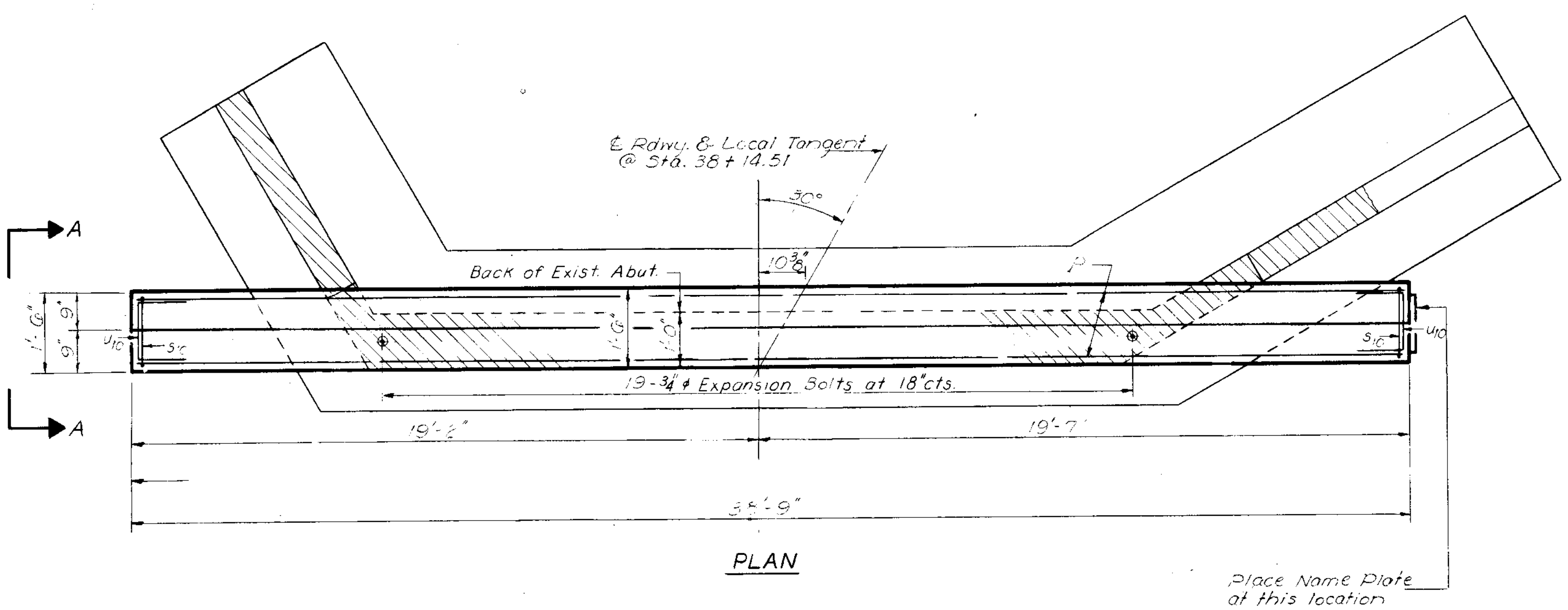
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 6
8 SHEETS

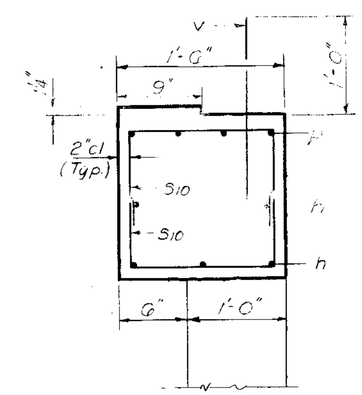
STATE OF ILLINOIS
[redacted]



ELEVATION



PLAN



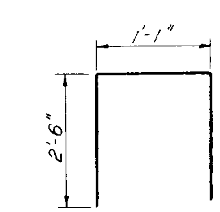
VIEW A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p	4	#9	38'-6"	——
h	5	#5	38'-6"	——
s10	78	#5	5'-2"	⊔
u10	6	#6	6'-1"	⊏
v	38	#6	2'-3"	——
Class X Concrete			Cu. Yds.	[illegible]
Reinforcement Bars			Lbs.	1330
Expansion Bolts			Each	19
Concrete Removal			Cu. Yds.	3

Notes:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion Bolts shall be anchored in sound concrete.
All edges shall have standard ¾ chamfers.

BAR s10



BAR u10

NORTH ABUTMENT
C.H. 23 SEC. 57-2BR
McLEAN COUNTY
STA. 37+99.60

DESIGNED	Paul K. Mattern
CHECKED	[illegible]
DRAWN	Jacobs
CHECKED	JP

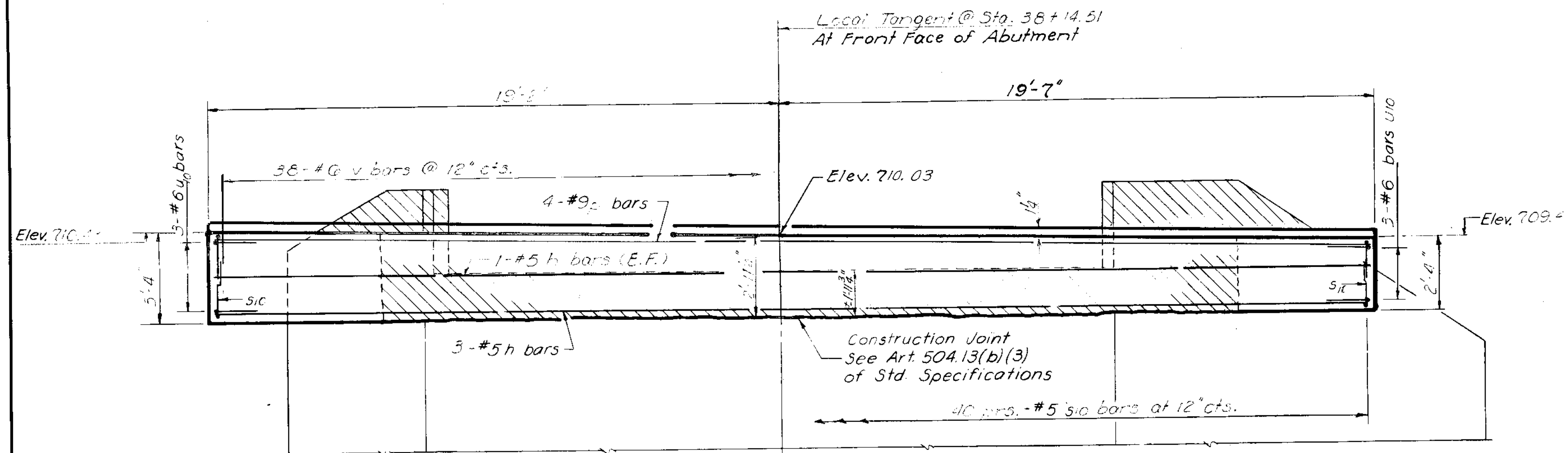
EXAMINED ______ 19__
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W. E. Baumann
ENGINEER OF DESIGN
APPROVED Richard H. Golterman
CHIEF HIGHWAY ENGINEER

A-4 (5-15-71) Skew R.F., Fixed

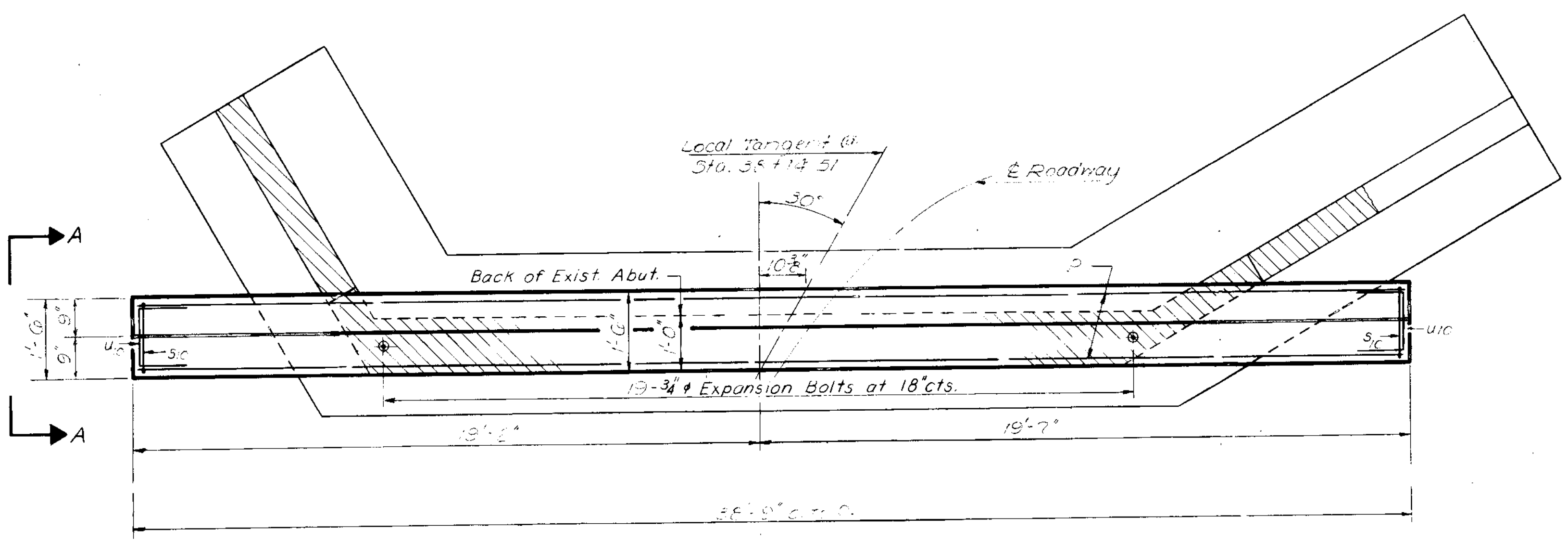
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	46
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
8 SHEETS

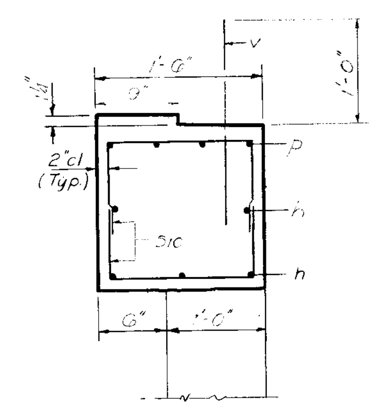
STATE OF ILLINOIS
[redacted]



ELEVATION



PLAN

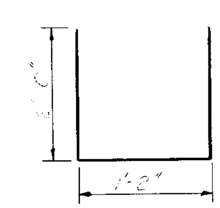


VIEW A-A

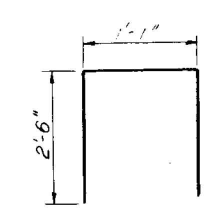
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p	4	#9	38'-6"	—
h	5	#5	38'-6"	—
s10	80	#5	5'-2"	⊓
u10	6	#6	6'-1"	⊓
v	38	#6	2'-3"	—
Class X Concrete			Cu. Yds.	[illegible]
Reinforcement Bars			Lbs.	1340
Expansion Bolts			Each	19
Concrete Removal			Cu. Yds.	3

Notes:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion Bolts shall be anchored in sound concrete.
All edges shall have standard 3/4" chamfers.



BAR s10



BAR u10

SOUTH ABUTMENT
C.H. 23 SEC. 57-2BR
McLEAN COUNTY
STA. 37+99.60

DESIGNED
CHECKED
DRAWN
CHECKED

EXAMINED 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W.E. Baumann
ENGINEER OF DESIGN
APPROVED Richard H. Golterman
CHIEF HIGHWAY ENGINEER

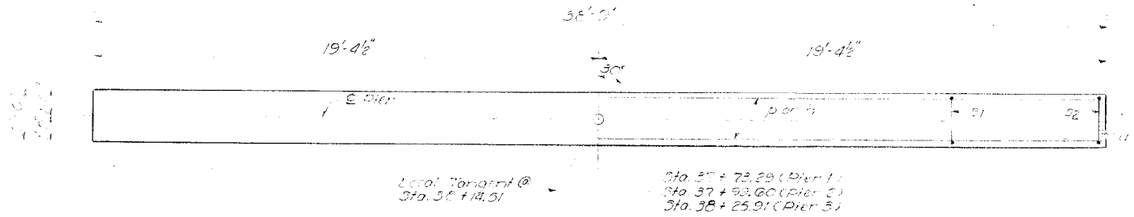
A-4 (5-15-71) Skew R.F., Fixed

STATE OF ILLINOIS

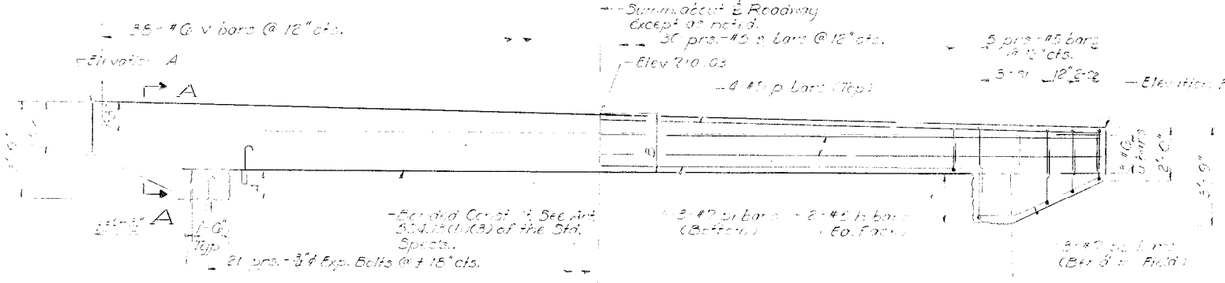
[redacted]

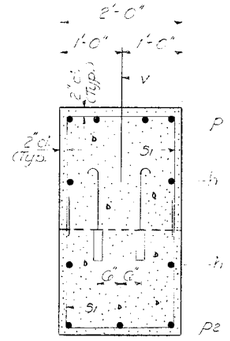
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2BR	McLEAN	64	47
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 8
8 SHEETS



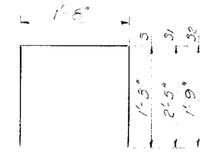
PLAN



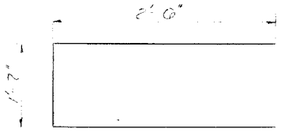


SECTION A-A

ELEVATION
(Looking South)



BARS S, S1 & S2



BAR U

3 PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	12	#5	38'-6"	——
P	12	#9	38'-6"	——
S	9	#7	29'-0"	——
Pe	18	#7	4'-9"	——
S	180	#5	4'-2"	⊓
S1	30	#5	6'-6"	⊓
S2	24	#5	5'-2"	⊓
U	18	#6	6'-7"	⊏
V	114	#6	2'-3"	——
Concrete Removal		Cu.Yds.		15
Expansion Bolts (¾"ϕ)		Each		126
Class X Concrete		Cu.Yds.		20.6
Reinforcement Bars		Lbs.		4480

ELEVATIONS A & B

Pier	A	B
1	710.93	709.64
2	710.10	709.56
3	711.27	709.49

A, B & C DIMENSIONS

Pier	A	B	C
1	±1'-7⅝"	±1'-2¾"	±1'-10½"
2	±1'-6⅝"	±2'-2⅝"	±2'-0½"
3	±1'-3⅜"	±2'-3"	±1'-6⅛"

NOTES:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in sound concrete.
All edges shall have standard ¾" chamfers except as noted.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	[illegible]
CHECKED	[illegible]

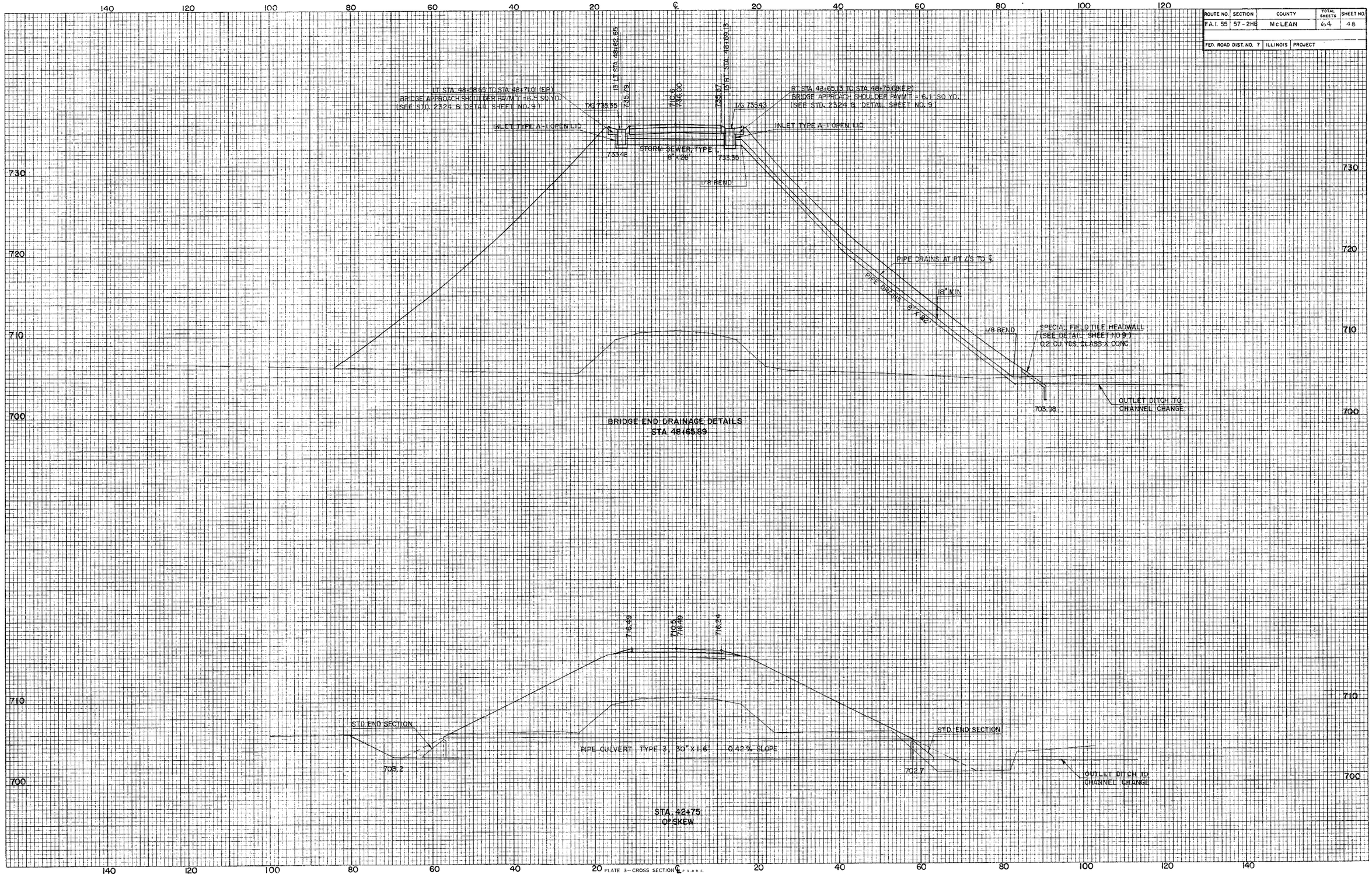
19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED [illegible]
ENGINEER OF DESIGN
APPROVED Richard H. McClerman
CHIEF HIGHWAY ENGINEER

PIERS
C.S. 23 SEC. 57-2BR
McLEAN COUNTY
STA. 37+99.60

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	48
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
SURVEYED	D.J.	11-4-71
PLOTTED		
NOTE BOOK	TEMPLATE	11-4-71
NO.	AREAS D.M.	
	AREAS CHECKED	



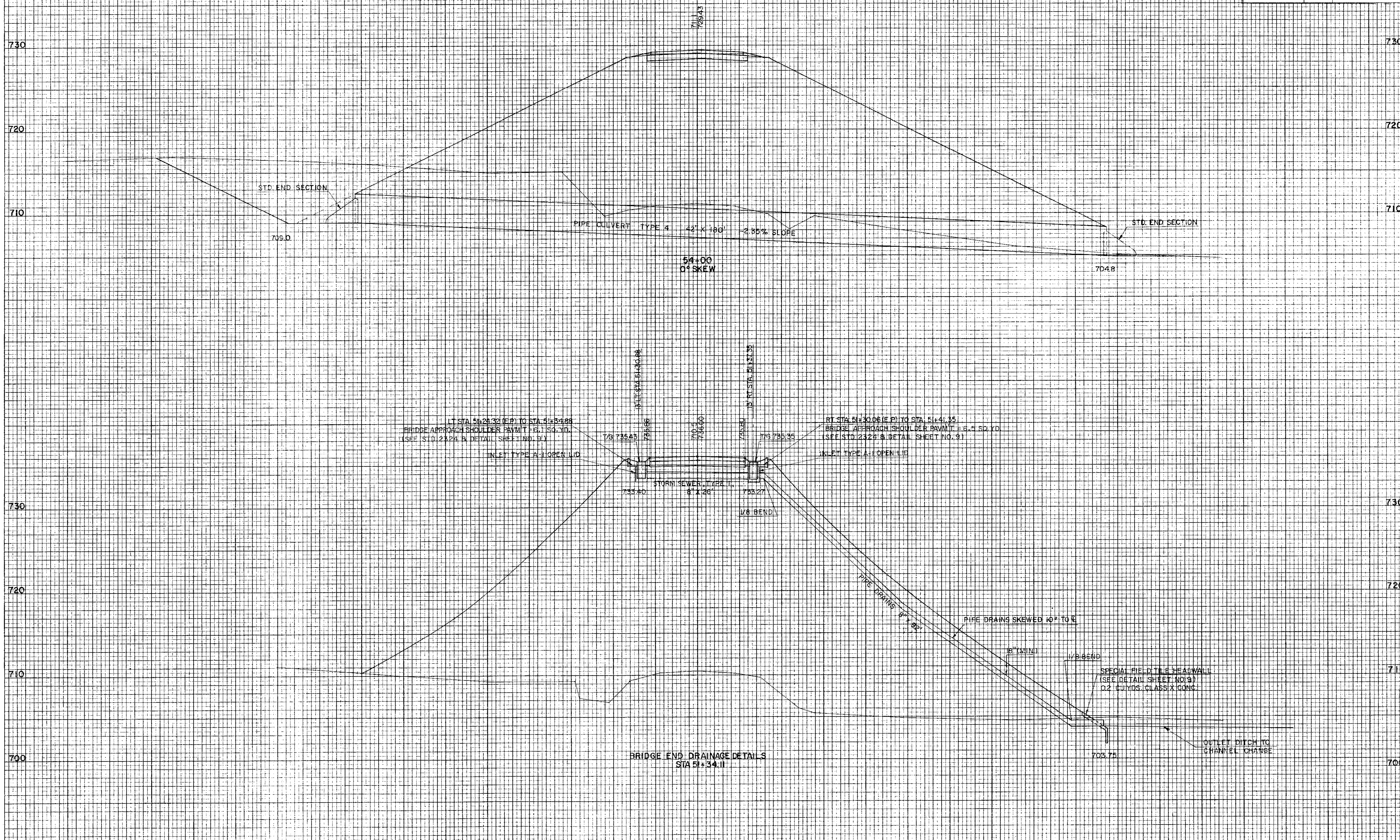
BRIDGING NO. 47-063

CULVERT PROFILES C.H. 23

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	57-2HB	McLEAN	64	49
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE 11-4-71



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	57-2BR	McLEAN	64	50
STA. 33+00		TO STA. 38+00		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

FINAL SURVEY	BY	DATE
ORIGINAL SURVEYED	L.R.	4-4-71
SUBV. PLOTTED	C.W.V.	4-28-71
NOTE BOOK TEMPLATE	D.J.	12-1-71
NO. AREAS CHECKED		

ORIGINAL SURVEYED	BY	DATE
SUBV. PLOTTED	D.J.	11-30-71
NOTE BOOK TEMPLATE	D.J.	11-30-71
NO. AREAS CHECKED		

STA. 37+00 TO STA. 38+52.22
VOLUME OF EARTH EXCAVATION
CHANNEL EXCAVATION = 283 CU. YD.
EMBANKMENT = 113 CU. YD.

BK. EXIST. N. ABUT.
STA. 37+46.98

OUTLET TO CHANNEL

TOPSOIL PLAC. = 43 L.F.

APPROACH GRADE RT. STA. 36+00
14' ENTRANCE @ 10.00% GRADE
EA. = 22 (F)

TOPSOIL PLAC. = 33 L.F.

SPECIAL DITCH RT.
STA. 37+00 TO STA. 38+00
@ 3.00% GRADE

SPECIAL DITCH RT.
STA. 35+00 TO STA. 37+00
@ 1.50% GRADE

TOPSOIL PLAC. = 27 L.F.

SPECIAL DITCH RT.
STA. 34+00 TO STA. 35+00
@ 2.40% GRADE

BEGIN CONST.
STA. 34+00

SPECIAL DITCH LT.
STA. 34+00 TO STA. 37+50
@ 1.80% GRADE

1.50 OUTLET TO CHANNEL

38 + 00 — C = 35, F = 65
37 + 00 — C = 31, F = 34
36 + 00 — C = 23, F = 48
35 + 00 — C = 25, F = 7
34 + 00
33 + 00

NOTE:
TOPSOIL PLAC. = L.F.
REPRESENTS THE HORIZONTAL
DISTANCE USED FOR COMPUTING
THE TOPSOIL QUANTITIES

PLATE 3—CROSS SECTION

CROSS SECTIONS C.H. 23

ROUTE NO. FAI 55 57-2HB MCLEAN 64 51
39+00 44+00 PROJECT

FINAL SURVEY — SURVEYED — BY — DATE
NOTE BOOK — PLOTTED
NO. — AREAS — AREAS CHECKED

ORIGINAL SURVEY — SURVEYED D.J. 10-27 — L.R. — 4-3-71
NOTE BOOK — PLOTTED D.J. 11-30-71 — C.W.V. — 9-8-71
NO. — AREAS — D.J. — 12-1-71
AREAS CHECKED

44 + 00 — C = 18, F = 1285 — 715 — 710 — 705 — CH 23 — CHANNEL CHANGE — FILL EXIST CHANNEL — 1.0% — R.O.W. — TOPSOIL PLAC. = 148 L.F. — 4:1 — 721.23 — 710.5 — 703.6
43 + 00 — C = 29, F = 825 — 715 — 710 — 705 — CH 23 — CHANNEL CHANGE — FILL EXIST CHANNEL — 1.0% — R.O.W. — TOPSOIL PLAC. = 129 L.F. — 4:1 — 717.18 — 710.5 — 717.32 — 703.3 — 18" RCP CULV. OUTLET ELEV. 702.7 — SPECIAL DITCH LT STA. 42+75 TO STA. 48+40 +0.30 % GRADE — FR. RD. NO 6 CONNECTION (EARTHWORK NOT INCLUDED IN THIS SECTION)
42 + 00 — C = 0, F = 543 — 715 — 710 — 705 — CH 25 — CHANNEL CHANGE — FILL EXIST CHANNEL — 1.0% — R.O.W. — TOPSOIL PLAC. = 108 L.F. — 4:1 — 714.72 — 710.7 — 714.41 — 703.3 — 18" RCP CULV. OUTLET ELEV. 702.7 — 75 PIPE CULV. INLET ELEV. 703.2
41 + 00 — C = 19, F = 192 — 715 — 710 — 705 — CH 23 — CHANNEL CHANGE — FILL EXIST CHANNEL — 1.0% — R.O.W. — TOPSOIL PLAC. = 90 L.F. — 4:1 — 715.00 — 710.8 — 712.54 — 704.5 — APPROACH GRADE LT STA. 40+00 14' FIELD ENTRANCE = 10.00 % GRADE ℄ EA = 67 (F)
40 + 00 — C = 24, F = 79 — 715 — 710 — 705 — CH 23 — CHANNEL CHANGE — FILL EXIST CHANNEL — 1.0% — R.O.W. — TOPSOIL PLAC. = 72 L.F. — 4:1 — 712.17 — 710.9 — 711.71 — 704.3
39 + 00 — C = 39, F = 41 — 715 — 710 — 705 — R.O.W. — TOPSOIL PLAC. = 43 L.F. — 4:1 — 712.42 — 711.3 — 711.66 — 704.1 — OUTLET TO ⊥ CHANNEL — SPECIAL DITCH LT STA 38+50 TO STA. 41+00 +0.20 % GRADE

STA 38+52.22 TO STA. 39+00
VOLUME OF EARTH EXCAVATION = 59 CU YD.
EMBANKMENT = 72 CU YD.

BK. EXIST. S. ABUT.
STA. 38+52.22

0 20 40 60 80

R.O.W. 104

PLATE 3 – CROSS SECTION

CROSS SECTIONS C.H. 23

ROUTE NO.				
F.A.I. 55	57-2HB	McLEAN	44	52
45100		48100		
		PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	L.R.	4-4-71
	PLOTTED	L.R.	4-5-71
NOTE BK.	TEMPLATE	C.W.V.	9-8-71
	AREAS	D.J.	12-1-71
NO.	AREAS CHECKED		

48 + 00 — C = 16, F = 4175 — CHANNEL CHANGE — CH. 23 — -10% — ROW 163' — MATCH LINE "H" 100' — MATCH LINE "H" 90' — MATCH LINE "G" 100' — MATCH LINE "G" 90' — TOPSOIL PLAC. = 243 L.F. — 710.5 / 23.98 — 710 — 705 — 704.8 — ROW 168'

47 + 00 — C = 15, F = 3480 — CHANNEL CHANGE — CH. 23 — -10% — ROW 150' — MATCH LINE "G" 100' — MATCH LINE "G" 90' — MATCH LINE "F" 100' — MATCH LINE "F" 90' — TOPSOIL PLAC. = 222 L.F. — 710.4 / 22.67 — 710 — 705 — 704.5 — ROW 152'

46 + 00 — C = 20, F = 2716 — CHANNEL CHANGE — CH. 23 — -10% — ROW 134' — MATCH LINE "F" 100' — MATCH LINE "F" 90' — MATCH LINE "E" 100' — MATCH LINE "E" 90' — TOPSOIL PLAC. = 201 L.F. — 710.5 / 23.63 — 710 — 705 — 704.2 — ROW 135'

45 + 00 — C = 19, F = 1897 — CHANNEL CHANGE — CH. 23 — -10% — ROW 118' — MATCH LINE "E" 100' — MATCH LINE "E" 90' — MATCH LINE "D" 100' — MATCH LINE "D" 90' — TOPSOIL PLAC. = 176 L.F. — 710.6 / 25.39 — 705 — 703.9 — ROW 120'

720 — 715 — 710 — 705 — 700 — 60 — 40 — 20 — 0 — 20 — 40 — 60 — 80

FOR EARTHWORK ONLY
SEE DETAIL SHEET NO. 7
FOR ZONE LAYOUT

MATCH LINE "A" 90' — MATCH LINE "B" 90' — MATCH LINE "C" 90' — MATCH LINE "D" 90'

4:1

BRUNING BD 12 157

PLATE 3 — CROSS SECTION

CHARLES BRUNING COMPANY

CROSS SECTIONS C.H. 23

ROUTE NO. F.A.I. 55 57-2HB 49+00 McLEAN 64 53 51+00 PROJECT

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED	L.R.	4-4-71
NO.	PLOTTED D.J. 11-30-71	L.R.	4-5-71
	TEMPLATE D.J. 11-30-71	C.W.V.	9-8-71
	AREAS	D.J.	12-1-71
	AREAS CHECKED		

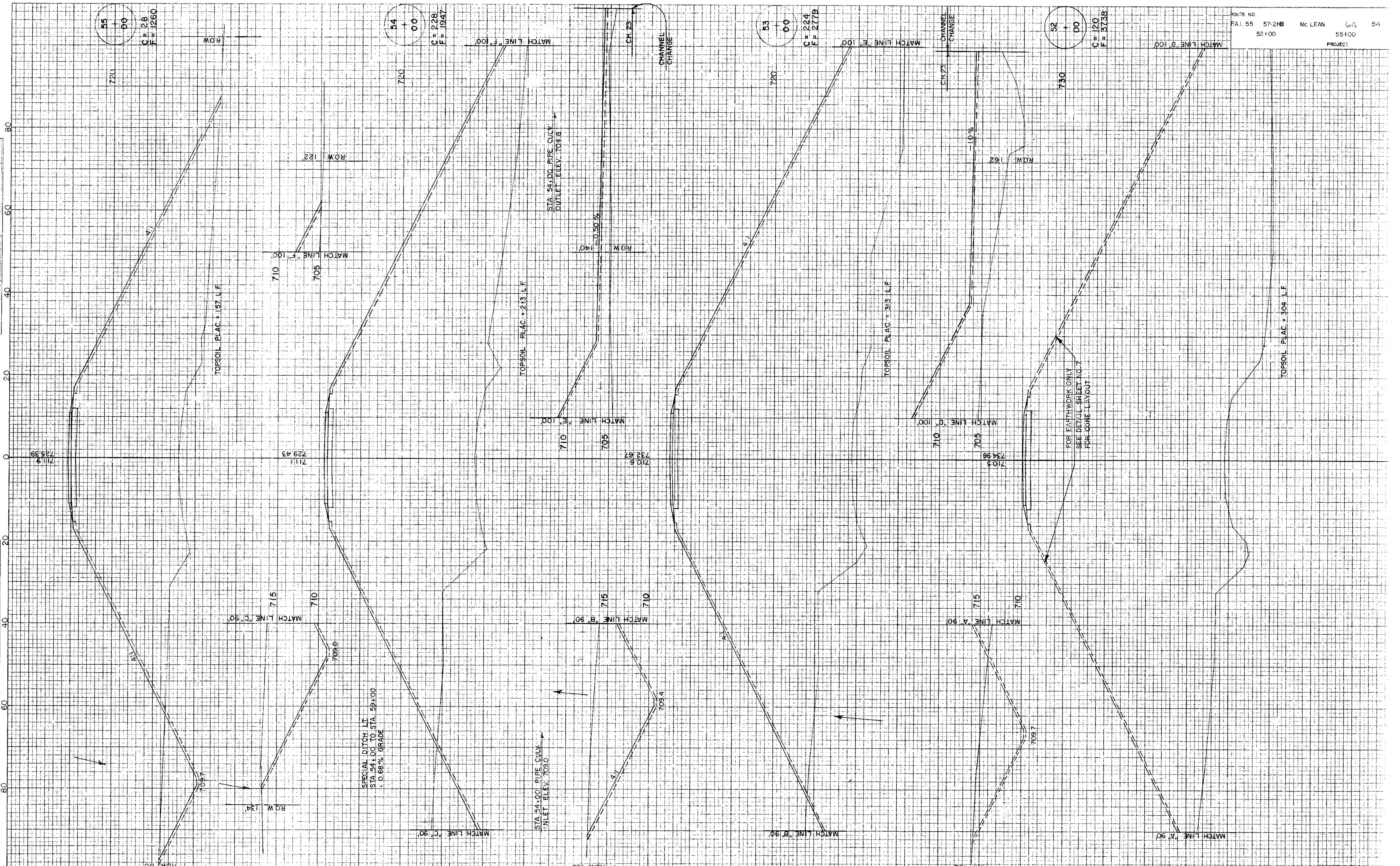
FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

BRUNING NO. 42-257

PLATE 3—CROSS SECTION

CROSS SECTION C.H. 23

ROUTE NO.				
F.A.I. 55	57-2HB	Mc LEAN	64	54
	52+00		55+00	
			PROJECT	



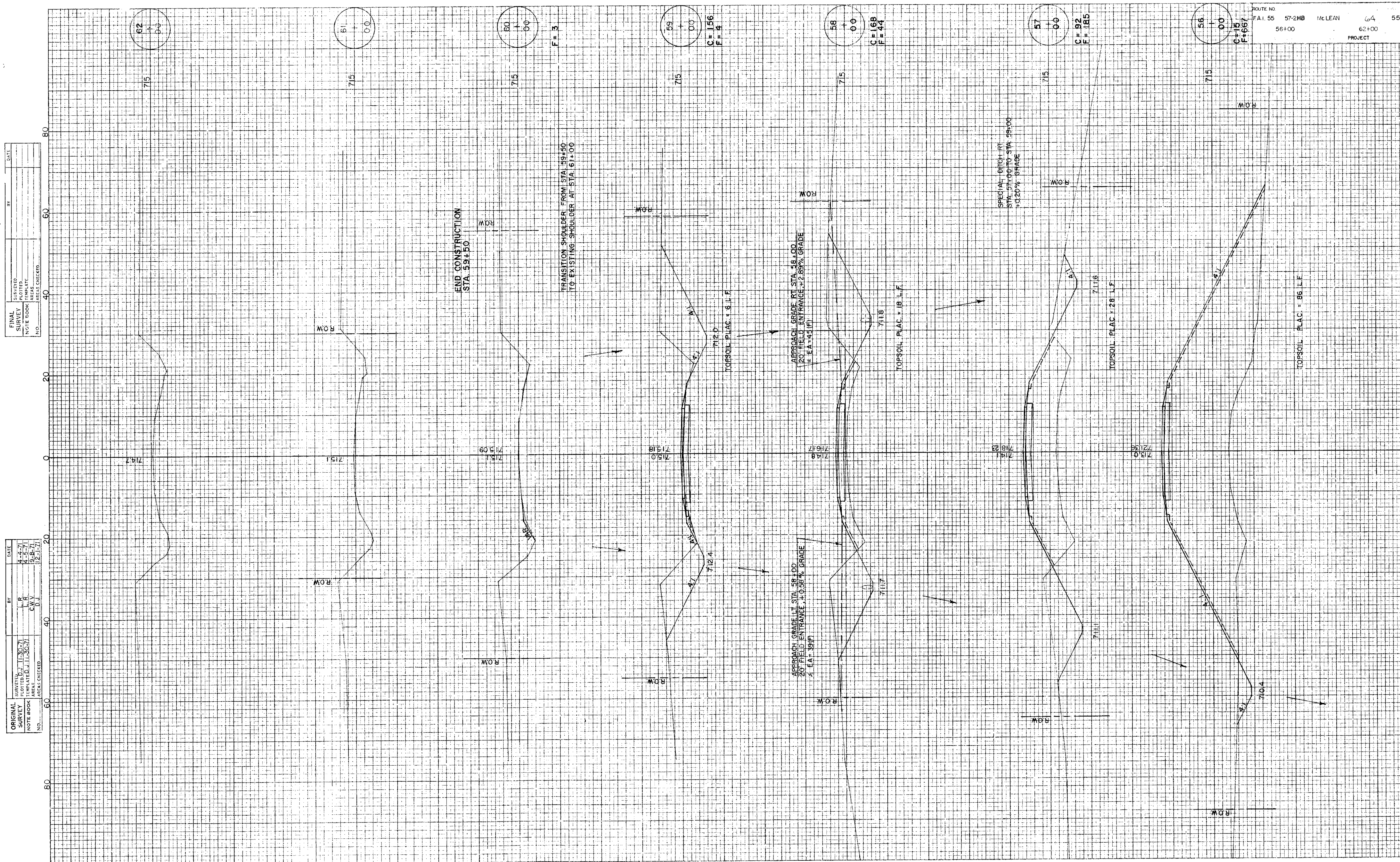
ORIGINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED D.J. 11-30-71	L.R.	4-4-71
NOTE BOOK	TEMPLATE D.J. 11-30-71	L.R.	4-5-71
	AREAS	C.W.V.	9-8-71
NO.	AREAS CHECKED	D.J.	12-1-71

FINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

PLATE 3 - CROSS SECTION

CROSS SECTIONS C.H. 23

ROUTE NO.					
F.A.I. 55	57-2HB	McLEAN	64	55
56+00		62+00		
		PROJECT		



CROSS SECTIONS C.H. 23

PLATE 3 - CROSS SECTION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	57-2B-2	MCLEAN	56	
STA. 709+00		TO STA. 712+00		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

INCLUDED IN
SECTION 57-2B-2

SPECIAL DITCH RT.
STA. 711+50 TO STA 713+50
+0.70 % GRADE

C = 29

SECTION 57-2B-2
STA. 709+80 TO STA. 711+00
VOLUME OF EMBANKMENT = 5809 CU. YDS.

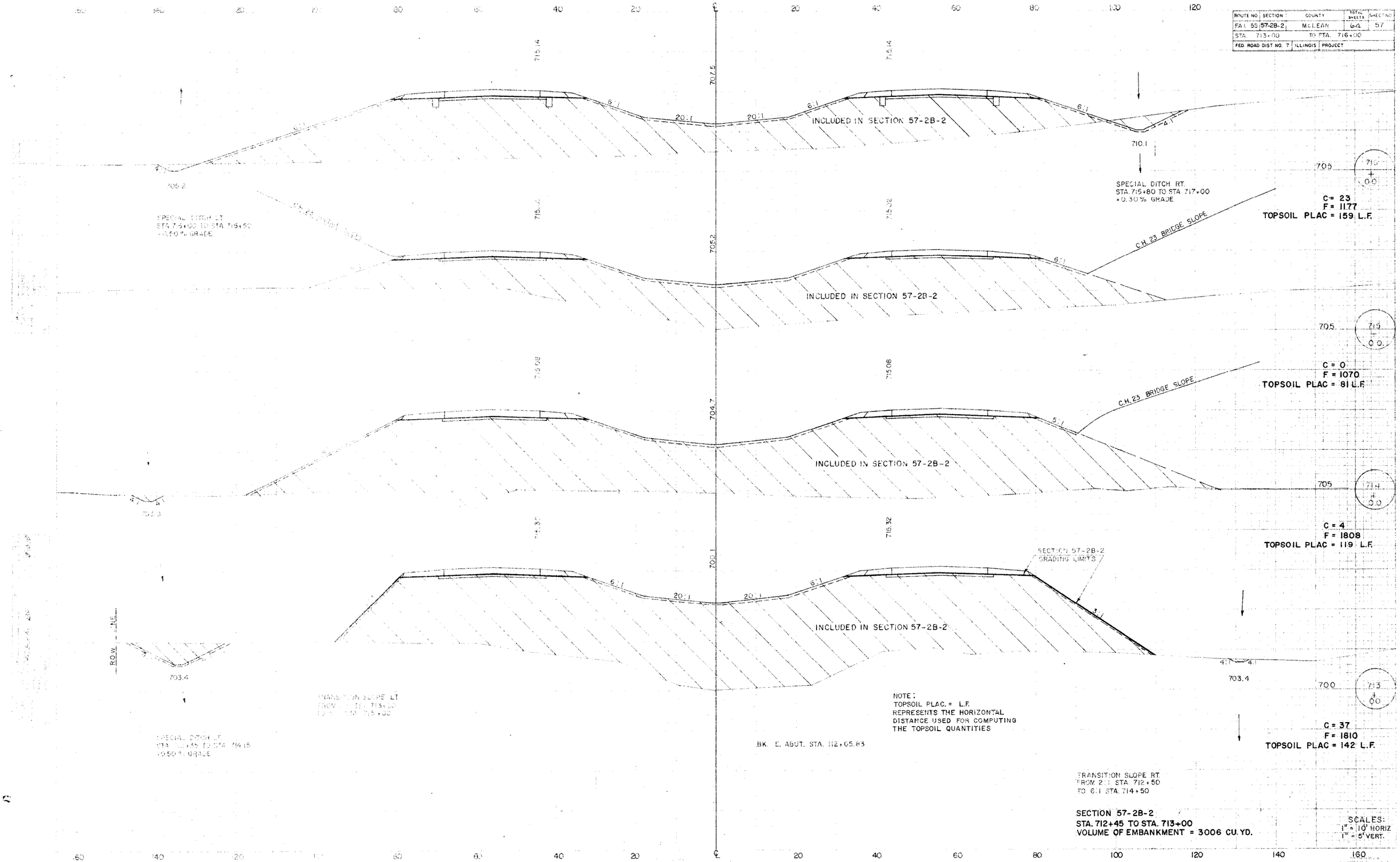
EARTHWORK INCLUDED IN BRIDGE CONES,
SECTION 57-2B-2

SECTION 57-2B-2
GRADING LIMITS

TRANSITION SLOPE RT.
FROM 6:1 STA 708+50
TO 2:1 STA. 710+50

SCALES:
1" = 10' HORIZ
1" = 5' VERT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	57-2B-2	McLEAN	64	57
STA. 713+00		TO STA. 716+00		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



NOTE:
TOPSOIL PLAC. = L.F.
REPRESENTS THE HORIZONTAL
DISTANCE USED FOR COMPUTING
THE TOPSOIL QUANTITIES

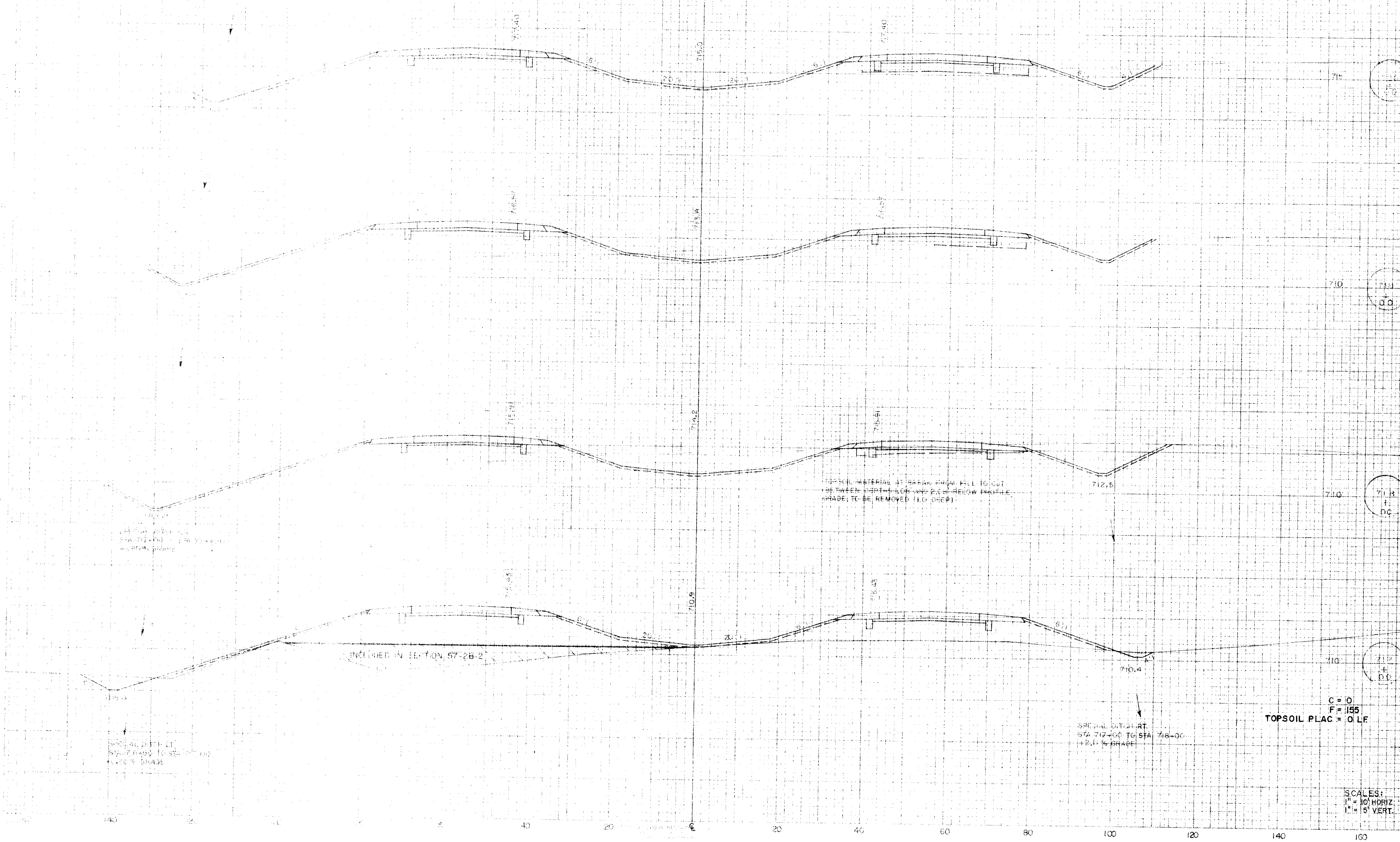
SECTION 57-2B-2
STA. 712+45 TO STA. 713+00
VOLUME OF EMBANKMENT = 3006 CU. YD.

SCALES:
1" = 10' HORIZ
1" = 5' VERT.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
[illegible]	57-2B-2	[illegible]	64	58

STA [illegible] TO STA [illegible]

FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT



57-28-2 64 59

FED. ROAD DIST. NO. 7 ILLINOIS PROJECT

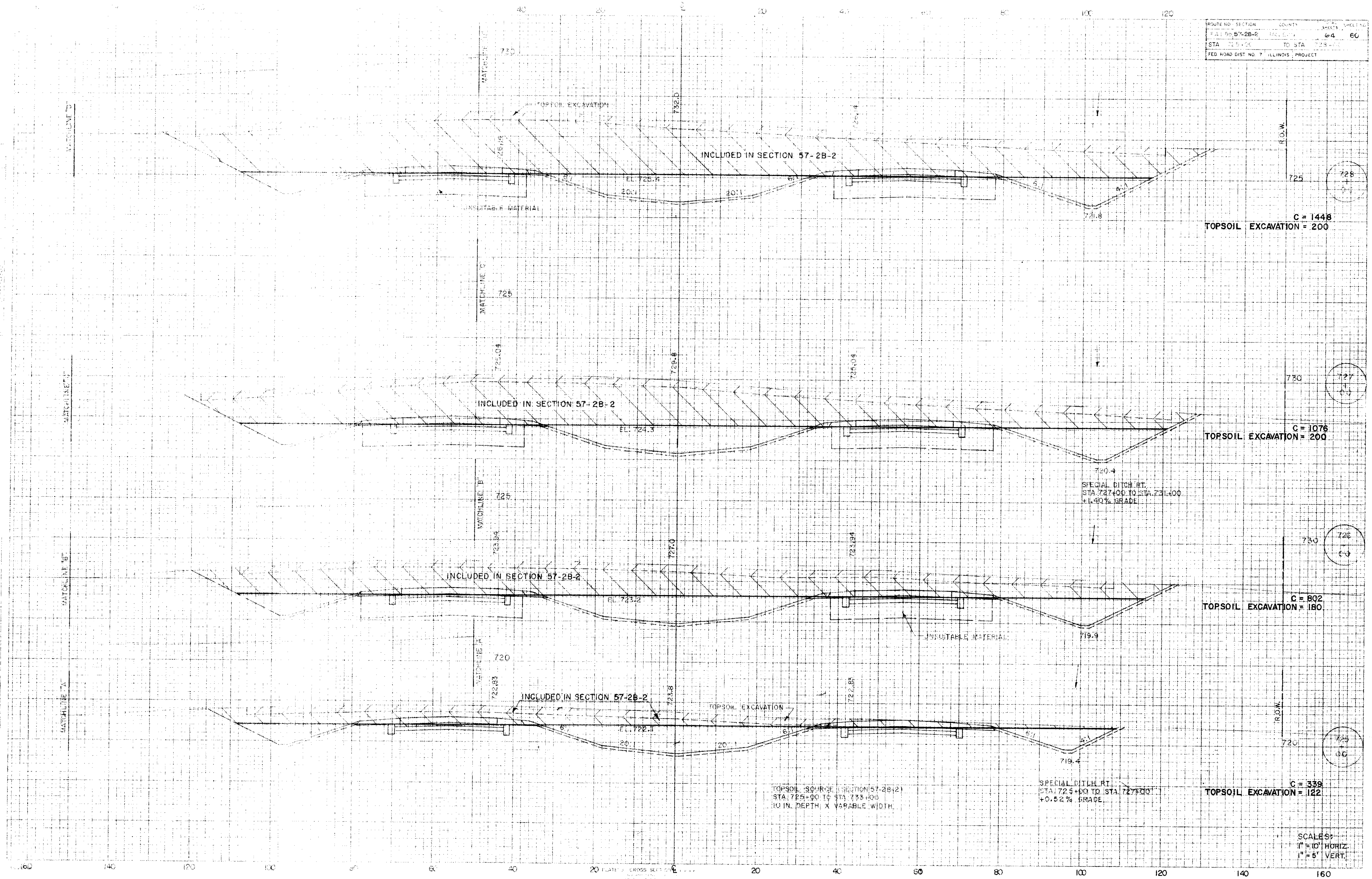
STATION 724+63
C = 0
TOPSOIL EXCAVATION = 0

724

716

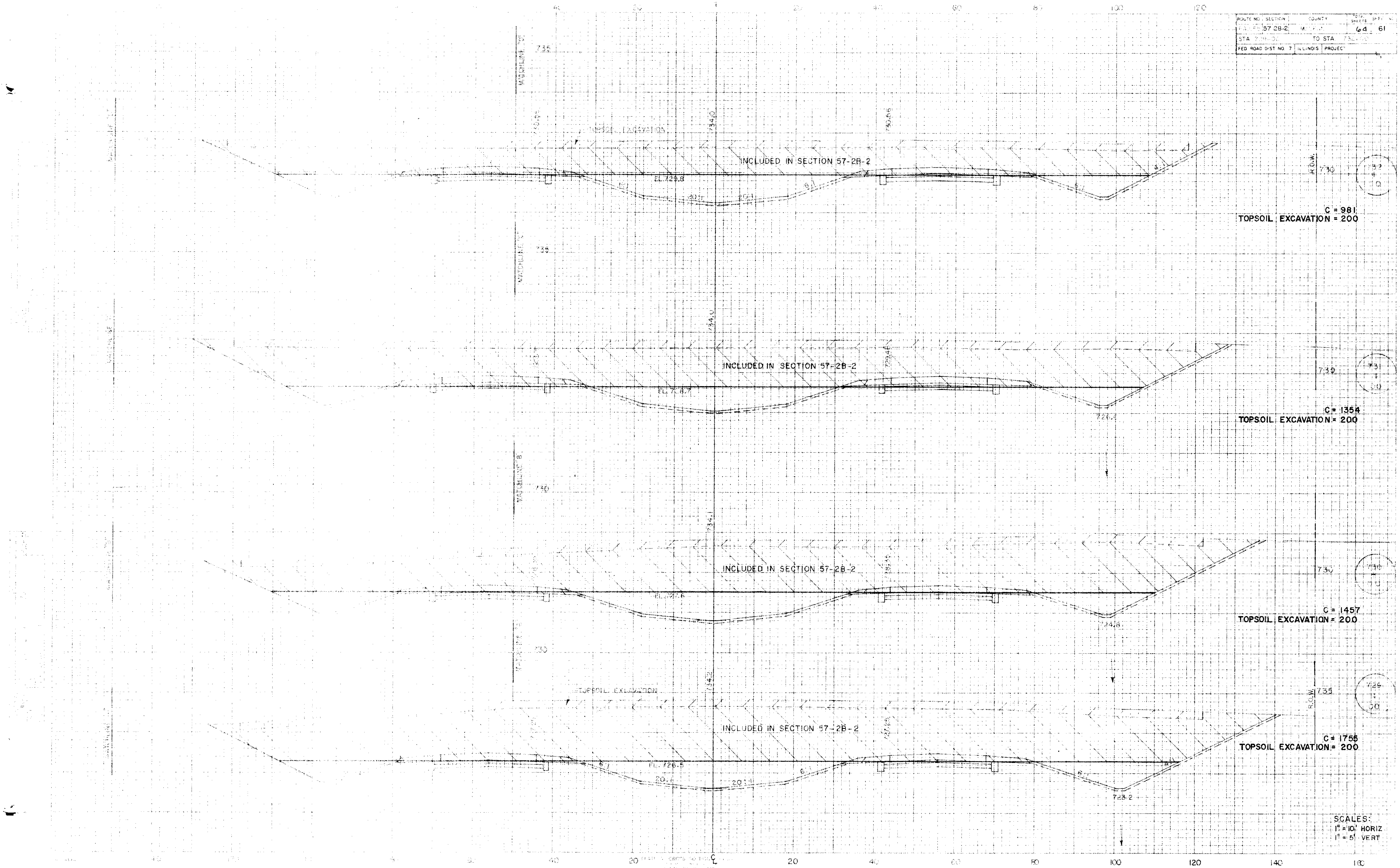
SCALES
1" = 10' HORIZ
1" = 5' VERT.

0 20 40 60 80 100 120 140 160



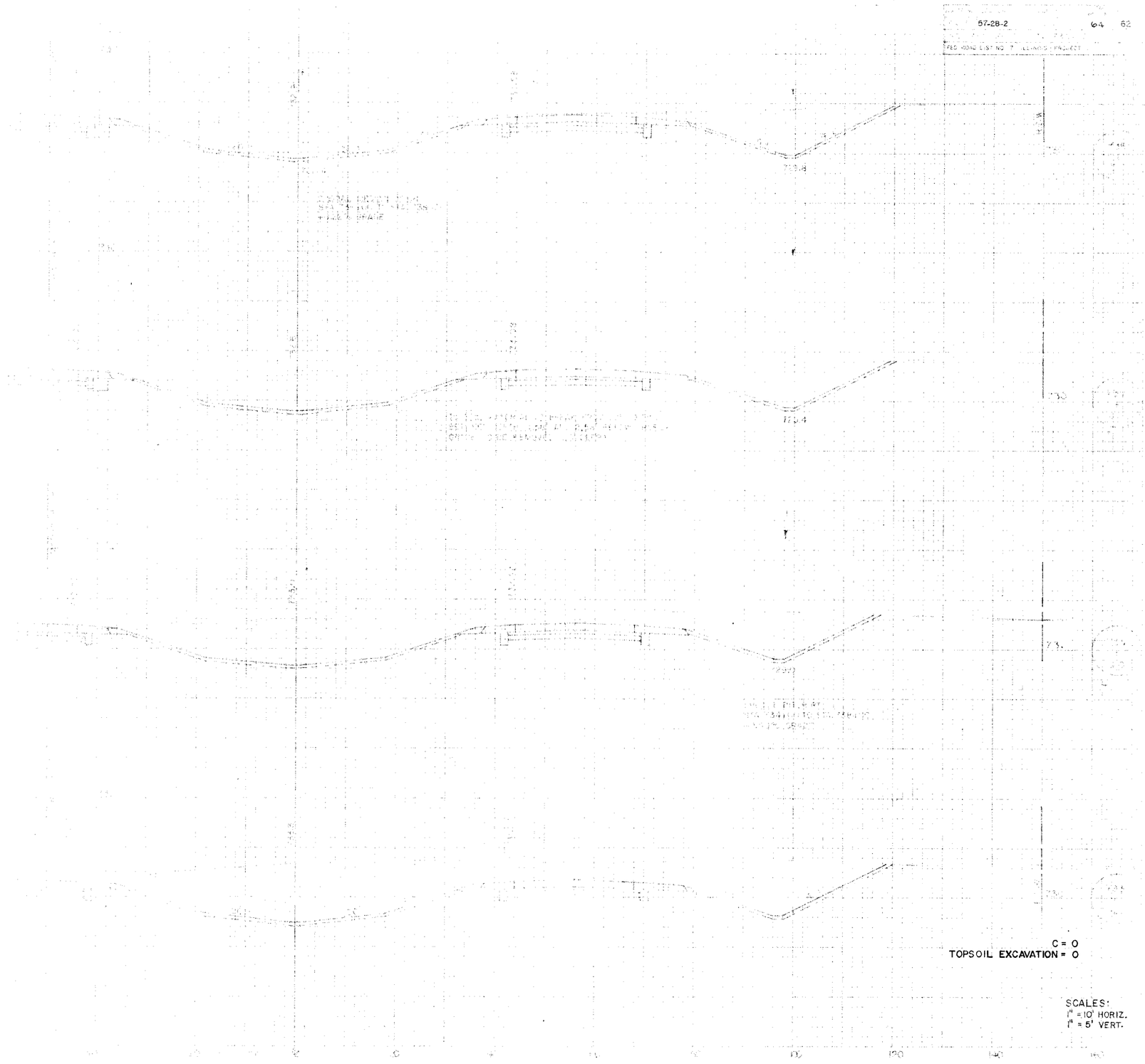
STA 725+00 TO STA 729+00
FED ROAD DIST. NO. 7 ILLINOIS PROJECT
TOPSOIL EXCAVATION
INCLUDED IN SECTION 57-2B-2
EL. 725.4
UNSUITABLE MATERIAL
R.O.W.
C = 1448
TOPSOIL EXCAVATION = 200
INCLUDED IN SECTION 57-2B-2
EL. 724.3
C = 1076
TOPSOIL EXCAVATION = 200
SPECIAL DITCH RT.
STA. 727+00 TO STA. 731+00
+1.40% GRADE
INCLUDED IN SECTION 57-2B-2
EL. 723.2
C = 802
TOPSOIL EXCAVATION = 180
UNSUITABLE MATERIAL
INCLUDED IN SECTION 57-2B-2
TOPSOIL EXCAVATION
EL. 722.1
C = 339
TOPSOIL EXCAVATION = 122
TOPSOIL SOURCE (SECTION 57-2B-2)
STA. 725+00 TO STA. 733+00
10 IN. DEPTH X VARABLE WIDTH
SPECIAL DITCH RT.
STA. 725+00 TO STA. 727+00
+0.52% GRADE
SCALES:
1" = 10' HORIZ.
1" = 5' VERT.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
[illegible]	57 2B-2	[illegible]	64	61
STA [illegible]		TO STA [illegible]		
FED ROAD DIST NO. 7	ILLINOIS	PROJECT		



57-28-2 64 62

REGIONAL ESP NO. 7 ILLINOIS PROJECT



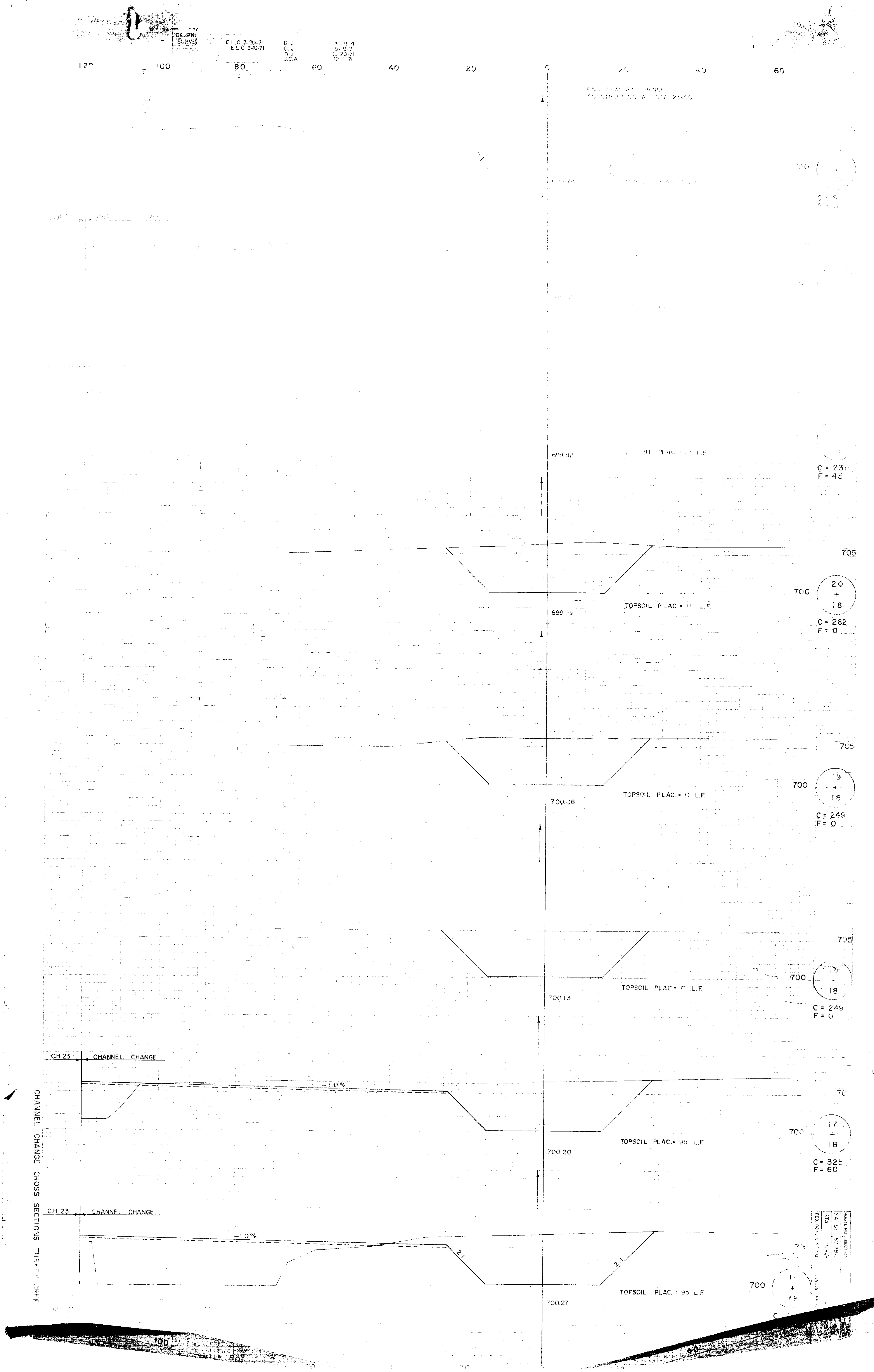
C = 0
TOPSOIL EXCAVATION = 0

SCALES:
1" = 10' HORIZ.
1" = 5' VERT.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FA I 55	57-28-2	MC LEAN	64
STA.	9+05	TO STA	15+18
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	

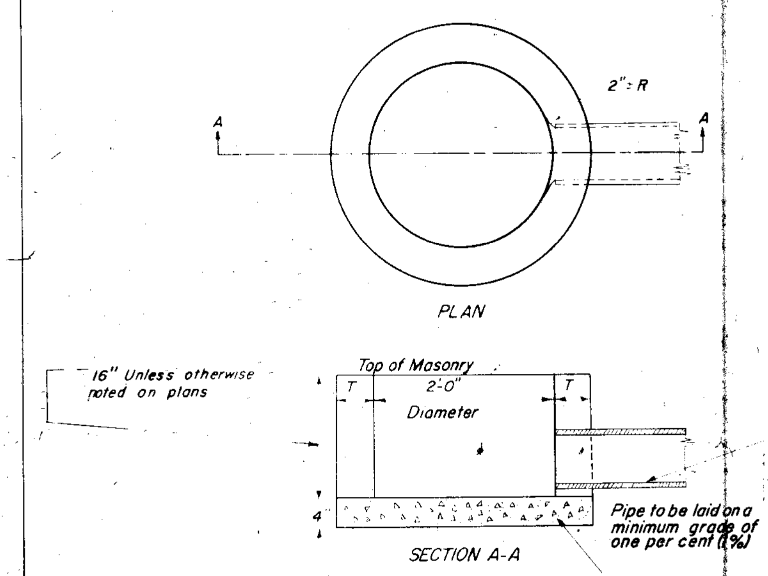
SCALES:
=10 HORIZ
= 5 VERT

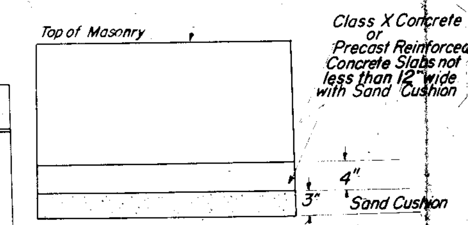
CHANNEL CHANGE CROSS SECTIONS TURKEY CREEK STA.



ORIGINAL SURVEY
E.L.C. 3-20-71
E.L.C. 9-10-71
D.J.
D.J.
D.J.
J.C.A.
699.92
C = 231
F = 45
705
700
20 + 18
TOPSOIL PLAC. = 0 L.F.
699.99
C = 262
F = 0
705
700
19 + 18
TOPSOIL PLAC. = 0 L.F.
700.06
C = 249
F = 0
705
700
18
TOPSOIL PLAC. = 0 L.F.
700.13
C = 249
F = 0
CH. 23
CHANNEL CHANGE
-1.0%
700
17 + 18
TOPSOIL PLAC. = 95 L.F.
700.20
C = 325
F = 60
CH. 23
CHANNEL CHANGE
-1.0%
2:1
2:1
700
TOPSOIL PLAC. = 95 L.F.
700.27
CHANNEL CHANGE CROSS SECTIONS TURKEY CREE

STANDARD DESIGN FOR INLET, TYPE A





ALTERNATE MATERIALS FOR WALLS	T
PRECAST REINFORCED CONCRETE RISERS	3"
CONCRETE MASONRY UNITS	5"
MONOLITHIC CONCRETE	6"
BUILDING BRICK, GRADE SW FROM CLAY OR SHALE	8"
CONCRETE BUILDING BRICK, GRADE A	8"

Type A Inlet to be provided with
Type 1 Frame & Open Lid

or Type 3 Frame
or Type 5 Frame & Open Lid
or Type 6 Frame
or Type 8 Grate
or Type 9 Frame
or Type 10 Frame
or Type 11 Frame
or Type 12 Frame
or Type 15 Frame

The Contract Unit Price for Inlets, Type A shall include the frame and lid or grate specified.

NOTE: Furnishing & installing sand cushion to be included in the contract unit price for Inlets, Type A

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

PASSED Dec. 22 19 52
H. J. Alton
ENGINEER OF ROAD PLANS AND CONTRACTS
APPROVED Dec 22 19 52
E. L. Sheutz
ENGINEER OF DESIGN

STANDARD 1683-2

Revised 9-9-59 WF
Revised 4-8-65 WF
GMM 12-19-52
Revised WFH 12-20-57
Revised JTM 6-20-58
Revised JFL 11-13-5
Traced WMS 1-29-59

STANDARD SYMBOLS AND ABBREVIATIONS

THESE SYMBOLS AND ABBREVIATIONS ARE USED THROUGHOUT THESE PLANS UNLESS OTHERWISE NOTED

SYMBOLS

- State Line
- Shelby Co. / Fayette Co. — County Line
- Township Line
- City, Village or Town Limits
- Section or Grant Line
- Section Corner
- Quarter Corner
- Same Ownership
- PL — Unfenced Property Line
- PL — Fenced Property Line
- Fence Line
- Std No — Construction Identification Sign
- Right of Way Marker
- R.O.W. — Existing Right of Way Line
- R.O.W. — Existing Fenced Right of Way Line
- Proposed Right of Way Line
- A.C. — Proposed Right of Way Line coincident with access control line
- A.C. — Access Control Line coincident with Right of Way Line
- 150' — Proposed Right of Way Dimension
- Construction Limits
- Base or Survey Line
- Channel Change Easement
- Temporary Easement (Detour, Grading etc.)
- Stream
- NAME — Lake or Pond
- Marsh
- Levee
- Summit
- Deciduous Trees
- Evergreen Trees
- Hedge
- or — Railroad or Utility Tracks
- Curb Wall
- Retaining Wall
- Existing Drive or Traveled Way
- Pipe Lines: G Gas; W Water; O Oil
- North Arrow
- Centerline
- Roadway
- Traffic Direction Arrow
- Longitudinal Construction Joint
- Longitudinal Metal Joint
- Contraction Joint
- Expansion Joint
- Guard Rail
- Existing Pavement, Curb & Gutter, Driveway Pavement & Sidewalk to be removed
- Existing Culvert
- Culvert to be Constructed
- Culvert with Drop Inlet
- P 936.25 — Elevation of Surface of Finished Pavement at Point Indicated
- C 936.50 — Elevation of Top of Curb at Point Indicated
- G 936.00 — Elevation of Flow Line of Gutter at Point Indicated
- 19.46 — Storm Sewer (Direction of Flow & Invert Elevation Indicated)
- 31.9 — Tile Drain (Direction of Flow & Invert Elevation Indicated)
- Existing Inlet, Inlet to be Adjusted, or Inlet to be Reconstructed
- •• Inlet to be Constructed
- Inlet to be filled with Sand & Connection Sealed
- Existing Catch Basin, Catch Basin to be Adjusted, or Catch Basin to be Reconstructed
- •• Catch Basin to be Constructed
- Catch Basin to be filled with Sand & Connection Sealed
- Existing Manhole, Manhole to be Adjusted, or Manhole to be Reconstructed
- •• Manhole to be Constructed
- Manhole to be filled with Sand & Connection Sealed
- Existing Valve Vault, Valve Vault to be Adjusted, or Valve Vault to be Reconstructed
- •• Valve Vault to be Constructed
- Valve Vault to be filled with Sand & Connection Sealed
- Existing Fire Hydrant, or Fire Hydrant to be Adjusted
- M — Fire Hydrant & Auxiliary Valve to be Moved (Symbol with Letter Indicates New Location)
- Existing Light Standard, or Light Standard to be Adjusted
- M — Light Standard to be Moved (Symbol with Letter Indicates New Location)
- Existing Stop & Go Light, or Stop & Go Light to be Adjusted
- M — Stop & Go Light to be Moved (Symbol with Letter Indicates New Location)
- Existing Traffic Sign, or Traffic Sign to be Adjusted
- M — Traffic Sign to be Moved (Symbol with Letter Indicates New Location)
- Existing House Service Box or House Meter Vault, or House Service Box or House Meter Vault to be Adjusted
- M — House Service Box or House Meter Vault to be Moved (Symbol with Letter Indicates New Location)
- Existing Main Service Box or Main Meter Vault, or Main Service Box or Main Meter Vault to be Adjusted
- M — Main Service Box or Main Meter Vault to be Moved (Symbol with Letter Indicates New Location)
- Trolley Pole
- Telephone or Telegraph Pole
- Power Line Pole
- H — House
- T — Church
- S — Shed
- Storage 24'x28' — Business Building
- B — Barn
- P — School
- T H — Town Hall

ABBREVIATIONS

T.D.	Tile Drain	℄-B.	Centerline to Back of Curb	R.P.S.	Reference Point Stake	Sec.	Section
S.S.	Storm Sewer (Existing)	Δ	Central Angle	I.P.	Iron Pipe	Sta.	Station
S.S. (18"x24" TYPE)	Storm Sewer (Size, Length and Type)	D.	Degree of Curve	N&W	Nail & Washer	P.L.	Property Line
S.S. (18"x24" TYPE RCP)	Storm Sewer (Size, Length, Type and Material)	T.	Tangent Length	T.P.	Telephone Pole	F.E.	Field Entrance
C.M.P.	Corrugated Metal Pipe	L.	Curve Length	P.P.	Power Pole	P.E.	Private Entrance
C.I.P.	Cast Iron Pipe	R.	Radius of Curve	F.P.	Fence Post	F.A.I.	Federal-aid Interstate
P.C.	Pipe Culvert (Existing)	E.	External Distance	F.H.	Fire Hydrant	F.A.	Federal-aid
P. (18"x24" TYPE)	Pipe Culvert (Size, Length and Type)	S.	Superelevation (ft per ft of width)	B.M.	Bench Mark	F.A.S.	Federal-aid Secondary
P. (18"x24" TYPE CMGP)	Pipe Culvert (Size, Length, Type and Material)	P.C.	Point of Curvature	R.R.S.	Railroad Spike	S.B.I.	State Bond Issue
P.C.C.	Portland Cement Concrete	P.I.	Point of Intersection	R.O.W.	Right of Way	M.F.T.	Motor Fuel Tax
F-F.	Face to Face of Curb	P.T.	Point of Tangency	Inv.	Invert	S.A.	State-aid Road
B-B.	Back to Back of Curb	P.O.T.	Point on Tangent	F.L.	Flow Line	C.H.	County Highway
℄-F.	Centerline to Face of Curb	P.C.C.	Point of Compound Curvature	S.M.	State of Illinois Survey Marker	T.R.	Township Road
		P.R.C.	Point of Reverse Curvature	U.S.C.&G.S.	U.S. Coast & Geodetic Survey	C.S.	City Street
		V.C.	Vertical Curve	U.S.G.S.	U.S. Geological Survey	Proj.	Project
		X.	External Distance of Vertical Curve	Elev.	Elevation	A.C.	Access Control
				Rt.	Route		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PASSED May 12, 1966
Engineer of Road Plans and Contracts

APPROVED May 12, 1966
Engineer of Design

REVISIONS	
BY	DATE
J.F.L.	11-18-58
W.F.	9-2-59
W.F.	11-19-62
W.F.	5-12-66

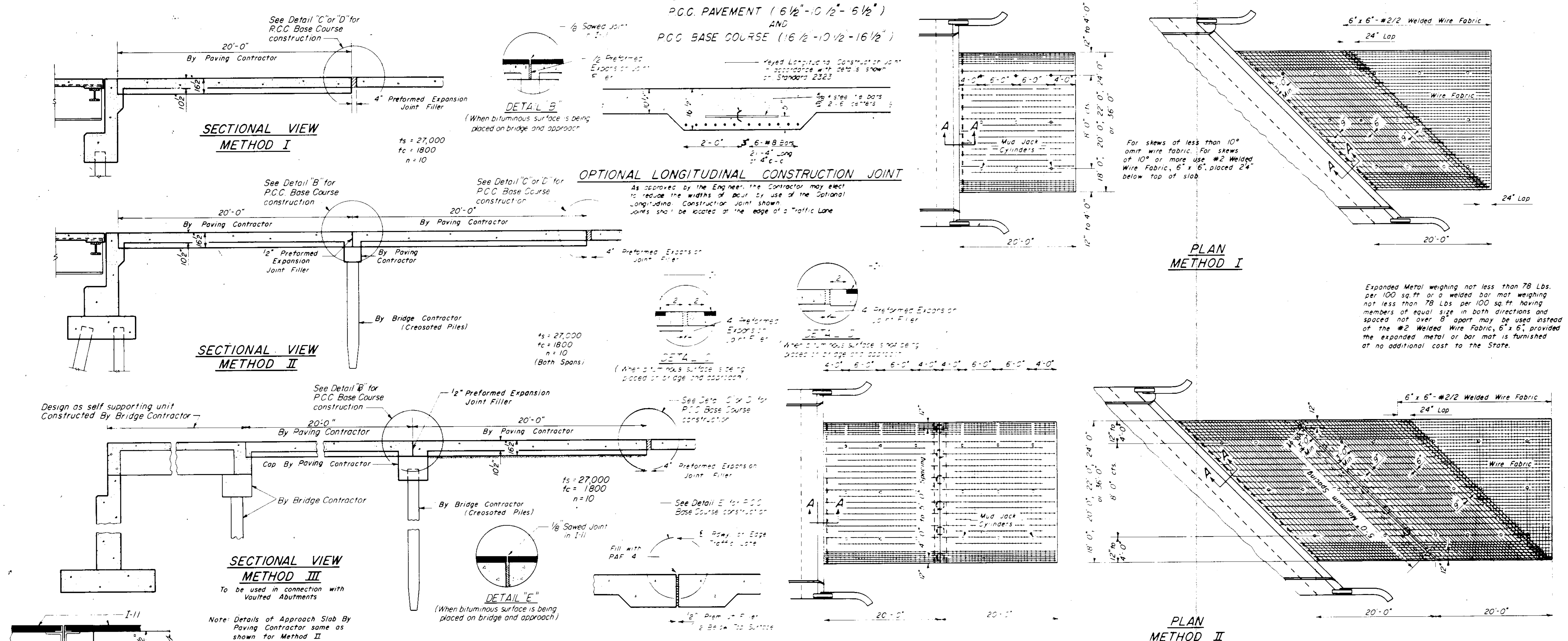
● If it is definitely known that adjustment or reconstruction is required, place A or R inside the symbol. If a new casting is required, show the casting number. Use P for open, C for closed lid. Example – Catch Basin to be reconstructed with new type 5 frame, open lid = Ⓡ 5P.

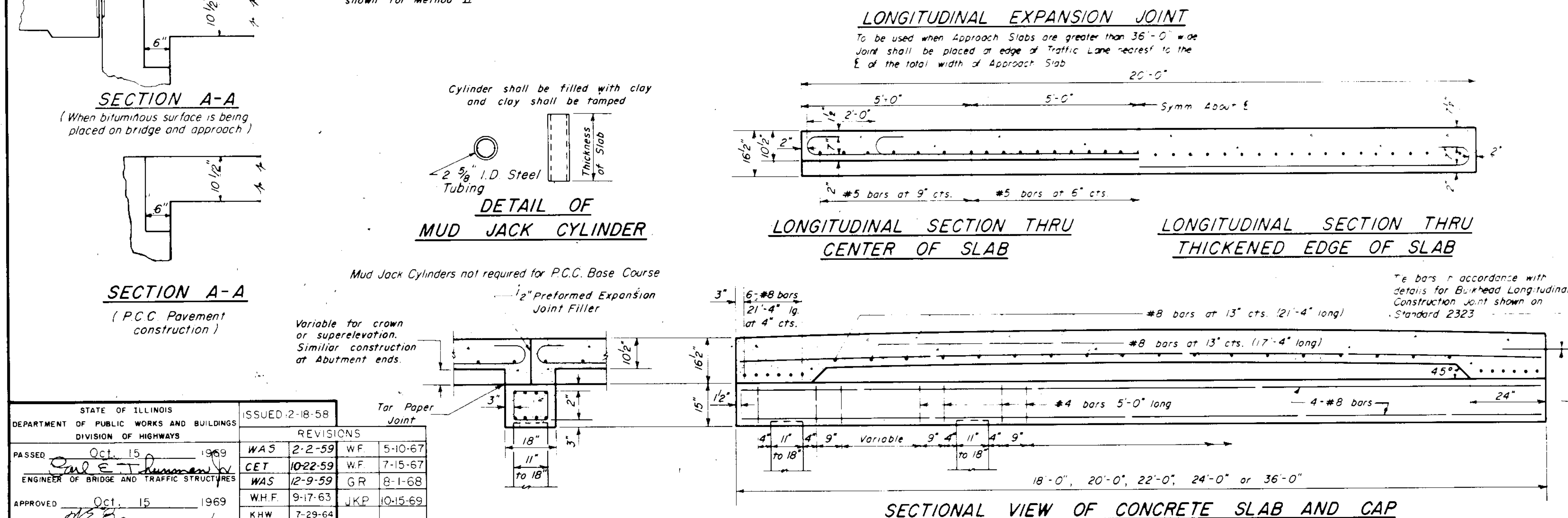
●● First character denotes type of structure. Use Sp. for special design. Second character denotes number of frame or grate. Example – Type A manhole with type 1 frame and closed lid = ◉ A-1C

STANDARD 1686-3

DETAILS OF BRIDGE APPROACHES

P.C.C. PAVEMENT ($6\frac{1}{2}$"-$10\frac{1}{2}$"-$6\frac{1}{2}$")
AND
P.C.C. BASE COURSE ($16\frac{1}{2}$"-$10\frac{1}{2}$"-$16\frac{1}{2}$")





Note: When road plans show curb and gutter or gutter adjacent to approach slabs place ½" ⌀ steel tie bars at 2'-6" cts. Cost of tie bars included in contract unit price for Curb & Gutter or Gutter.

The transition for gutter shall be made in 100 feet and will be paid for as CONCRETE GUTTER, of the type specified.

The transition for curb and gutter shall be made in 20 feet and will be paid for as COMBINATION CURB and GUTTER, of the type specified.

GENERAL NOTES

FOR P.C.C. PAVEMENT

The slab or slabs will be paid for at the contract unit price for PORTLAND CEMENT CONCRETE PAVEMENT ($16\frac{1}{2}$"-$10\frac{1}{2}$"-$16\frac{1}{2}$").

The concrete cap will be paid for at the contract unit price for CLASS X CONCRETE.

All Reinforcement Bars will be paid for at the contract unit price for REINFORCEMENT BARS, except as noted.

The Welded Wire Fabric, Mud Jack Cylinders, and Preformed Expansion Joint Filler shall be included in the unit price bid for PORTLAND CEMENT CONCRETE PAVEMENT ($16\frac{1}{2}$"-$10\frac{1}{2}$"-$16\frac{1}{2}$").

Preformed Expansion Joint Filler shall conform to Section 715 of the Standard Specification.

Width of Bridge Approach Slab pours shall be determined before the reinforcement bars are fabricated.

The Contractor shall, after completion of the finishing operations, mark the position of the Mud Jack Cylinders.

FOR P.C.C. BASE COURSE

The slab or slabs will be paid for at the contract unit price for PORTLAND CEMENT CONCRETE BASE COURSE ($16\frac{1}{2}$"-$10\frac{1}{2}$"-$16\frac{1}{2}$").

The concrete cap will be paid for at the contract unit price for CLASS X CONCRETE.

All Reinforcement Bars will be paid for at the contract unit price for REINFORCEMENT BARS, except as noted.

The Welded Wire Fabric, Concrete Headers, and Preformed Expansion Joint Filler shall be included in the unit price bid for PORTLAND CEMENT CONCRETE BASE COURSE ($16\frac{1}{2}$"-$10\frac{1}{2}$"-$16\frac{1}{2}$").

Preformed Expansion Joint Filler shall conform to Section 715 of the Standard Specification.

Width of Bridge Approach Slab pours shall be determined before the reinforcement bars are fabricated.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

PASSED Oct. 15 1969
[signature]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

APPROVED Oct. 15 1969
[signature]
ENGINEER OF DESIGN

ISSUED 2-18-58

REVISIONS			
WAS	2-2-59	W.F.	5-10-67
CET	10-22-59	W.F.	7-15-67
WAS	12-9-59	G.R.	8-1-68
W.H.F.	9-17-63	J.K.P.	10-15-69
KHW	7-29-64		
[illegible]	10-28-64		

STANDARD 1909-10

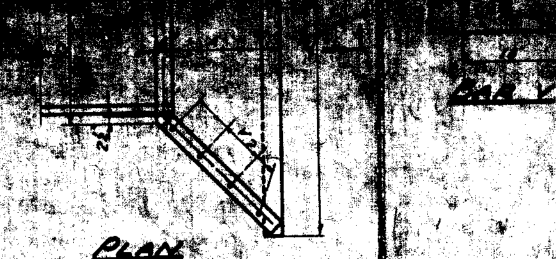


Table of Dimensions

Design No.	Diam. of Pipe	Slope of Fill*	A	B	C	D	E	F	Cu. Yds. Conc. 2 Hdwls.	h Bars Mark	h Bars Length	V Bars No.	Total Wt. 2 Hdwls.
D15-12	[illegible]	12:1	1'7"	10"	1'11"	2'0"	6'3½"	[illegible]	0.9	h	6'9"	16	40
D15-2	[illegible]	2:1	2'2"	10"	1'11"	2'0"	[illegible]	3'8½"	1.2	h1	8'3"	22	[illegible]
D18-12	[illegible]	12:1	1'9"	1'1"	2'2"	2'3"	5'8½"	2'3½"	1.0	h2	7'0"	16	40
D18-2	[illegible]	2:1	2'2"	1'1"	2'2"	2'3"	6'10½"	3'3½"	1.3	h3	8'6"	22	60
D24-12	24"	12:1	2'1"	1'4"	2'9"	2'11"	7'4½"	3'2"	1.5	h4	9'3"	22	60
D24-2	24"	2:1	2'10"	1'4"	2'9"	2'11"	8'10½"	4'2½"	[illegible]	h5	11'0"	26	70
D30-12	30"	12:1	2'6"	1'7"	3'3"	3'5"	8'8½"	3'9"	2.0	h6	11'0"	26	70
D30-2	30"	2:1	3'4"	1'7"	3'3"	3'5"	10'4½"	[illegible]	2.6	h7	13'0"	[illegible]	80
D36-12	36"	12:1	3'0"	1'10"	3'10"	4'1"	[illegible]	4'5½"	2.6	h8	13'3"	30	80
D36-2	36"	2:1	4'0"	1'10"	3'10"	4'1"	12'4½"	5'10½"	3.5	h9	15'6"	40	100

* If embankment slope above headwall is flatter than 2:1, provide wings for 2:1 slope.

Mark	a	b
h	1'10"	[illegible]
h1	1'10"	[illegible]
h2	2'1"	[illegible]
h3	2'1"	[illegible]
h4	2'9"	[illegible]
h5	2'9"	[illegible]
h6	3'3"	[illegible]
h7	3'3"	4'10½"
h8	3'11"	[illegible]
h9	5'11"	5'9½"

Note:
Class X Concrete shall be used throughout.

Oct. 5, 1959

EXAMINED [signature] ENGINEER OF BRIDGE ...

PASSED [signature] ENGINEER ...

APPROVED [signature] CHIEF HIGHWAY ENGINEER

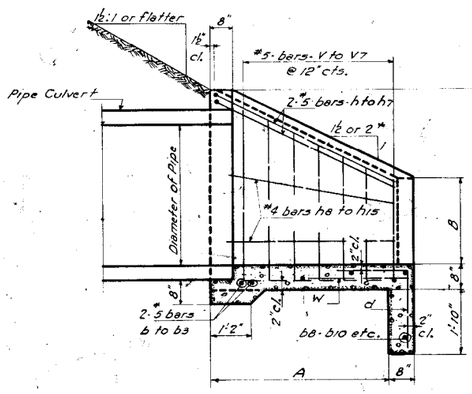
Reinforced Concrete Headwalls for 15"-18"-24"-30" & 36" Diameter Pipe Culverts at Right Angles with Roadway

M. Miller   Sign's. Rev. No. 58

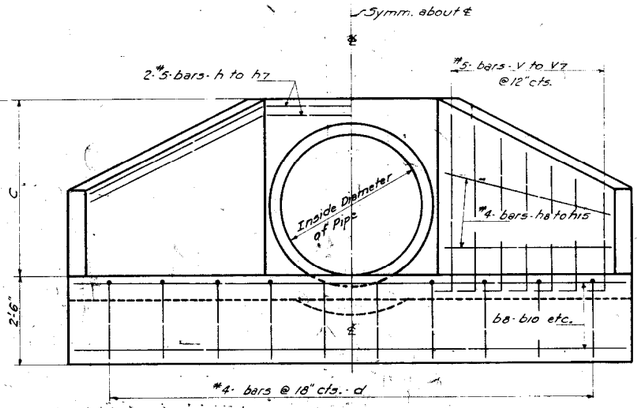
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

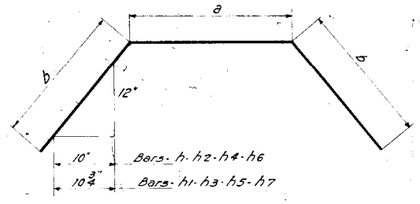
SHEET NO. 1
1 SHEET



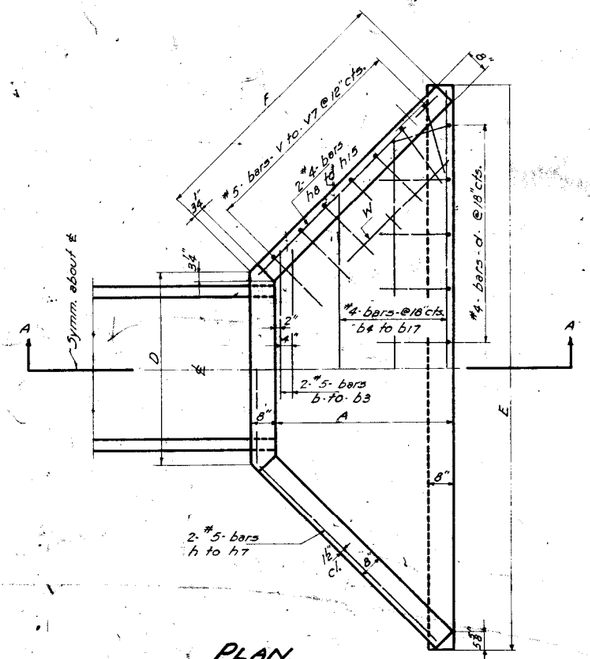
SECTION A-A



END ELEVATION



BARS h TO h7



PLAN

BARS IN ONE HEADWALL

42" Pipe				48" Pipe				54" Pipe				60" Pipe			
D42-1½		D42-2		D48-1½		D48-2		D54-1½		D54-2		D60-1½		D60-2	
Bars	No.	Bars	No.	Bars	No.	Bars	No.	Bars	No.	Bars	No.	Bars	No.	Bars	No.
d	8	d	9	d	9	d	10	d	10	d	12	d	11	d	13
b	2	b	2	b1	2	b1	2	b2	2	b2	2	b3	2	b3	2
b5	1	b4	1	b7	1	b6	1	b5	1	b5	1	b7	1	b7	1
b8	2	b8	1	b10	2	b10	1	b9	1	b9	1	b11	1	b11	1
		b11	2			b14	2	b12	2	b13	1	b14	2	b15	1
										b16	2			b17	2
h	2	h1	2	h2	2	h3	2	h4	2	h5	2	h6	2	h7	2
h8	4	h9	4	h10	4	h11	4	h12	4	h13	4	h14	4	h15	4
V3	2	V3	2	V2	2	V2	2	V1	2	V1	2	V	2	V	4
V4	2	V4	2	V3	2	V3	4	V2	2	V2	4	V1	2	V1	2
V5	2	V5	4	V4	2	V4	2	V3	2	V3	2	V2	2	V2	2
V6	2	V6	2	V5	2	V5	2	V4	2	V4	2	V3	2	V3	4
V7	2	V7	2	V6	2	V6	4	V5	2	V5	4	V4	2	V4	2
								V6	2	V6	2	V5	4	V5	4
W	2	W	2	W	2	W	2	W	2	W	2	W	2	W	2

DIMENSIONS AND QUANTITIES

Design No.	Inside Diam. of Pipe	Slope of Fill *	Dimensions A	B	C	D	E	F	C.Y. Conc. in Hdwls. Cu. Yds.	Reinf. Bars in Hdwls. Lbs.
D42-1½	42"	1½:1	3'-4"	2'-2"	3'-8½"	4'-10"	11'-10½"	5'-0"	4.8	330
D42-2	42"	2:1	4'-5"	2'-2"	4'-4½"	4'-10"	14'-0½"	6'-6½"	6.2	400
D48-1½	48"	1½:1	3'-9"	2'-5"	4'-1"	5'-5"	13'-3½"	5'-7"	5.8	360
D48-2	48"	2:1	5'-0"	2'-5"	4'-11"	5'-5"	15'-9½"	7'-4½"	7.6	460
D54-1½	54"	1½:1	4'-2"	2'-8"	5'-5½"	6'-0"	14'-8½"	6'-2"	6.8	430
D54-2	54"	2:1	5'-7"	2'-8"	5'-5½"	6'-0"	17'-6½"	8'-2"	9.2	550
D60-1½	60"	1½:1	4'-7"	2'-11"	6'-0"	6'-7"	16'-1½"	6'-9"	8.0	490
D60-2	60"	2:1	6'-2"	2'-11"	6'-0"	6'-7"	19'-3½"	9'-0"	10.8	690

* If embankment slope above headwall is flatter than 2:1, provide wings for 2:1 slope.

Note:
Class X Concrete shall be used throughout.

DIMENSIONS OF BENT BARS

#5 Bars V to V7			#5 Bars h to h7			
Bars	C	Total Lgth.	Bars	a	b	Total Lgth.
V	6'-0"	8'-0"	h	4'-8"	5'-2"	15'-0"
V1	5'-6"	7'-6"	h1	4'-8"	6'-8"	18'-0"
V2	5'-0"	7'-0"	h2	5'-3"	5'-10½"	17'-0"
V3	4'-6"	6'-6"	h3	5'-3"	7'-6"	20'-3"
V4	4'-0"	6'-0"	h4	5'-10"	6'-7"	19'-0"
V5	3'-6"	5'-6"	h5	5'-10"	8'-4"	22'-6"
V6	3'-0"	5'-0"	h6	6'-5"	7'-2"	20'-9"
V7	2'-6"	4'-6"	h7	6'-5"	9'-5½"	25'-0"

SIZES OF STRAIGHT BARS

Bars	Size	Length
b	# 5	6'-3"
b1	# 5	6'-9"
b2	# 5	7'-3"
b3	# 5	8'-0"
b4	# 4	8'-3"
b5	# 4	9'-0"
b6	# 4	10'-0"
b7	# 4	10'-6"
b8	# 4	11'-3"
b9	# 4	12'-0"
b10	# 4	13'-0"
b11	# 4	13'-6"
b12	# 4	14'-3"
b13	# 4	15'-0"
b14	# 4	15'-6"
b15	# 4	16'-6"
b16	# 4	17'-0"
b17	# 4	19'-0"
h8	# 4	4'-9"
h9	# 4	6'-3"
h10	# 4	5'-3"
h11	# 4	7'-9"
h12	# 4	6'-0"
h13	# 4	8'-0"
h14	# 4	6'-6"
h15	# 4	8'-9"
W	# 4	4'-0"

DESIGNED		
CHECKED		
DRAWN	M. Miller	
CHECKED		

OCT. 5 19 59

EXAMINED: ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED: ENGINEER OF DESIGN
APPROVED: CHIEF HIGHWAY ENGINEER

Sign's. Rev. Nov. 58

REINFORCED CONCRETE HEADWALLS FOR 42" 48" 54" & 60" DIAMETER PIPE CULVERTS AT RIGHT ANGLES WITH ROADWAY

STANDARD 1997

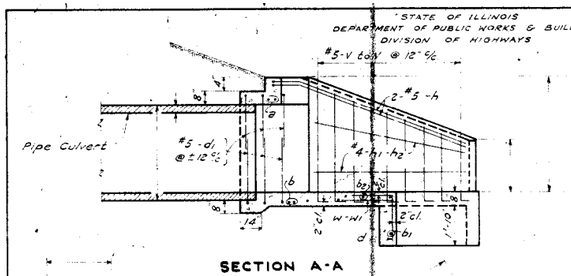
DIETZGEN NO. 199 IMPERIAL

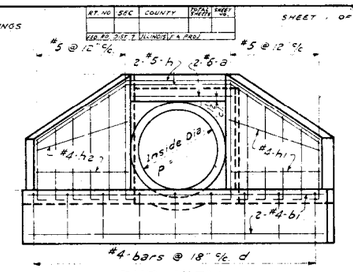
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

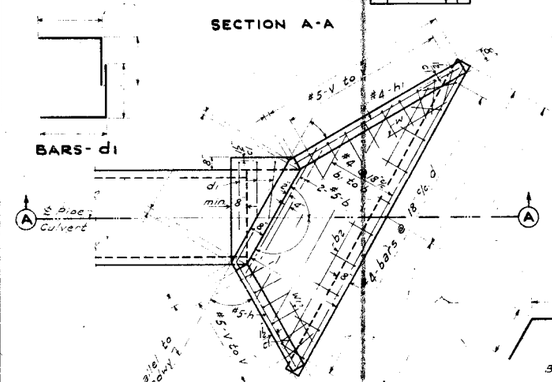
RT. NO	SEC	COUNTY	TOTAL SHEETS	SHEET NO

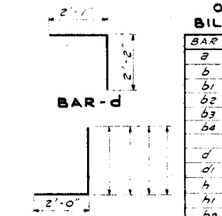
FED. RD. DIST. NO. ILLINOIS & PROJ.

SHEET , OF









Note - All bars shall be round ASTM A305-49. The size number is the number of ⅛ inches in the nominal diameter.

ONE HEADWALL BILL OF MATERIAL

BAR	No.	SIZE	LENGTH
a	2	#5	
b	2	#5	
b1	2	#4	
b2	1	#4	
b3		#4	
b4		#4	
d		#4	4'-3"
d1		#5	
h	2	#5	
h1	2	#4	
h2	2	#4	
V		#5	
V1		#5	
V2		#5	
V3		#5	
W	1	#4	
W1	1	#4	
Class X Concrete Cu.Yds.			
Reinforcement Bars Lbs.			

~NOTES~
Class X Concrete shall be used throughout.
Build tops of headwalls parallel to grade line.

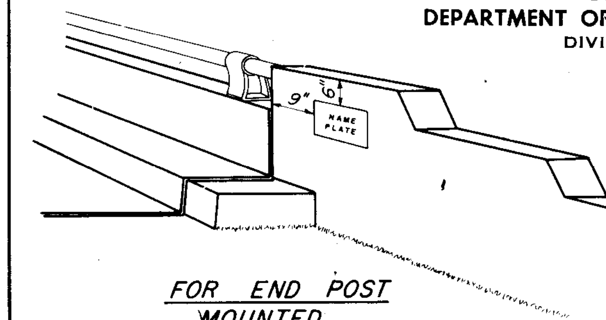
STANDARD	COMPUTED : A.W.Wilson	EXAMINED	
	CHECKED (I.L. Unit Test)		
	DRAWN J.S.Malecki	PASSED	BRIDGE ENGINEER
	CHECKED L.A.W.	APPROVED	ENGINEER OF DESIGN
SPECIAL	ASSEMBLED		
	CHECKED		CHIEF HIGHWAY ENGINEER

Rev. Reinf. Bars - Jan. 51

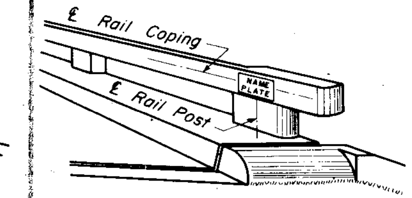
REINFORCED CONC. HEADWALLS 42"-48"-54" & 60" DIAM. PIPE CULVERTS SKEWED WITH ROADWAY

STANDARD 606

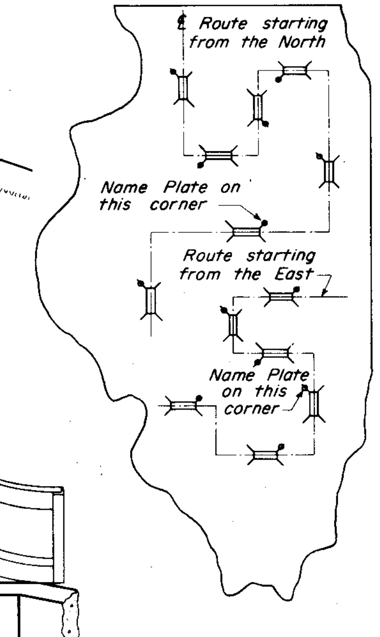
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

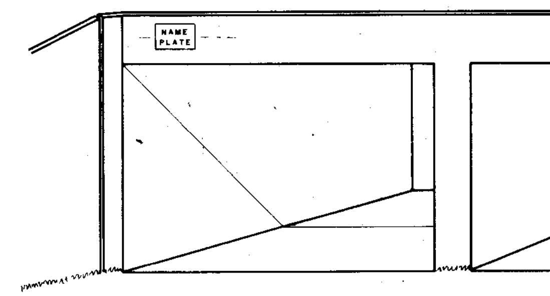


FOR END POST MOUNTED



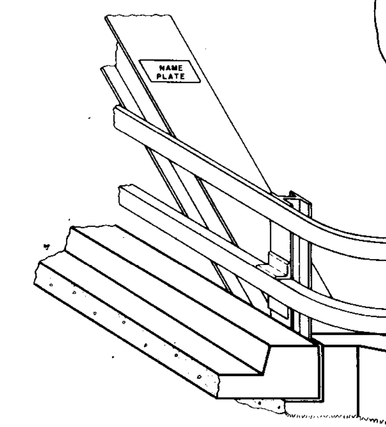
FOR CONCRETE RAILS



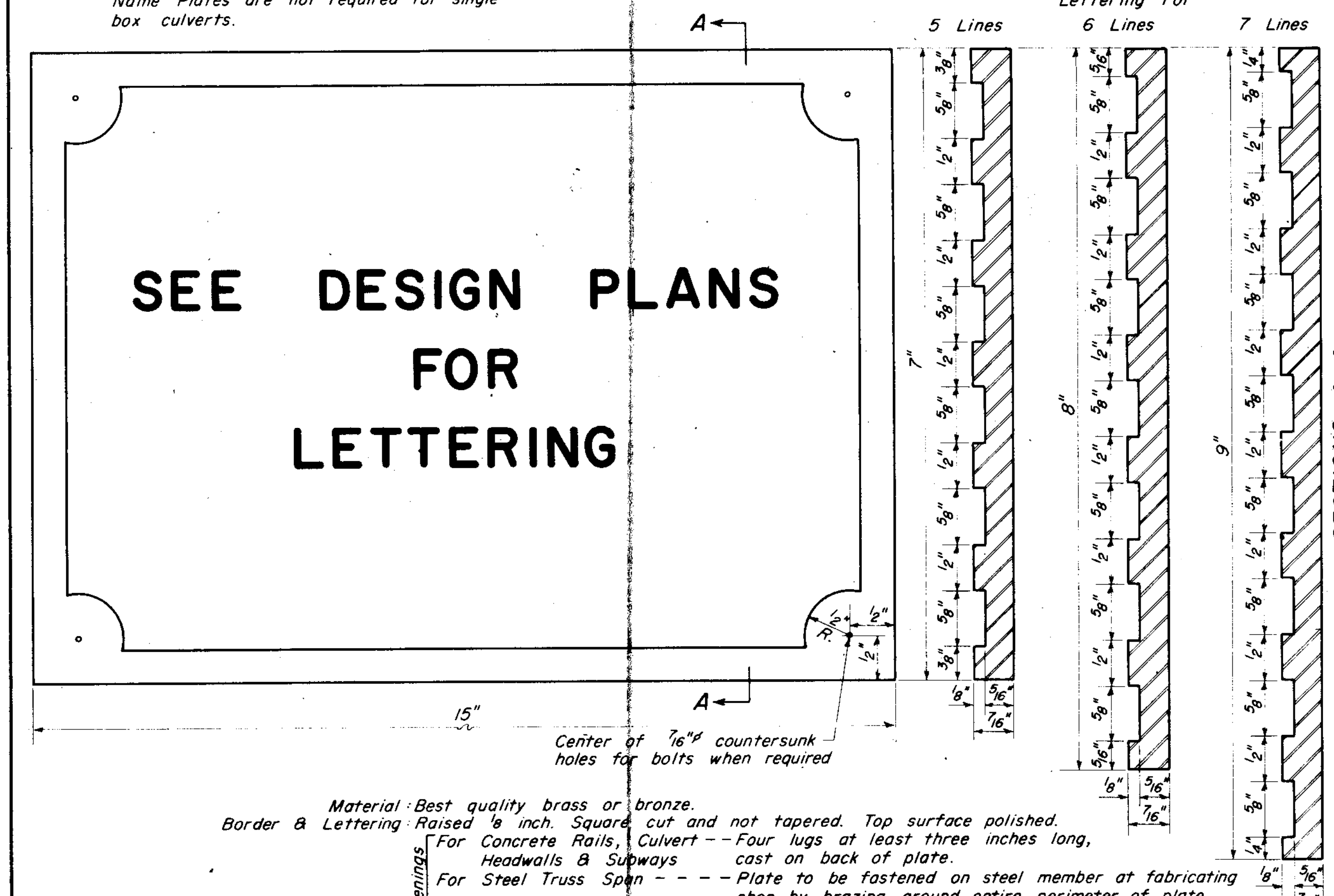


FOR MULTI-SPAN CULVERTS

Note: Unless otherwise noted on the plans, Name Plates are not required for single box culverts.



FOR TRUSSES



Material: Best quality brass or bronze.
Border & Lettering: Raised ⅛ inch. Square cut and not tapered. Top surface polished.

Fastenings:
- For Concrete Rails, Culvert Headwalls & Subways — Four lugs at least three inches long, cast on back of plate.
- For Steel Truss Span — Plate to be fastened on steel member at fabricating shop by brazing around entire perimeter of plate.
- For Steel Rails — Plate to be bolted on with 4 - ⅜"⌀ brass or bronze machine bolts with countersunk head.

Placings:
- For Concrete Rails — Plate to be centered on ℄ of rail post and ℄ of handrail coping.
- For Steel Truss Span — Braze to end post about five feet above roadway.
- For Steel Rails — Place midway between horizontal rail members.
- For Subways — See design plans for location.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PASSED NOVEMBER 15, 1963
A. V. VanAusdall (signature)
Engineer of Road Plans And Contracts

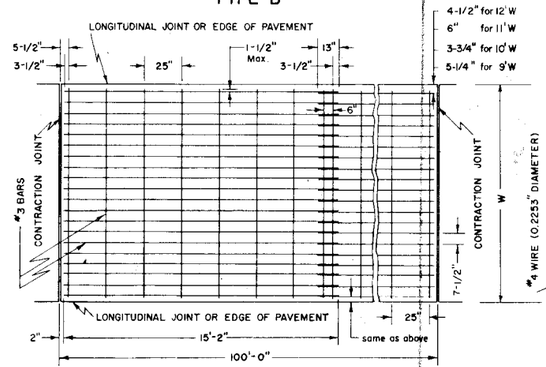
APPROVED NOVEMBER 15, 1963
(signature)
Engineer of Design

DETAIL OF NAME PLATE FOR BRIDGES

(Half size)

STANDARD DESIGN FOR PAVEMENT FABRIC

TYPE B

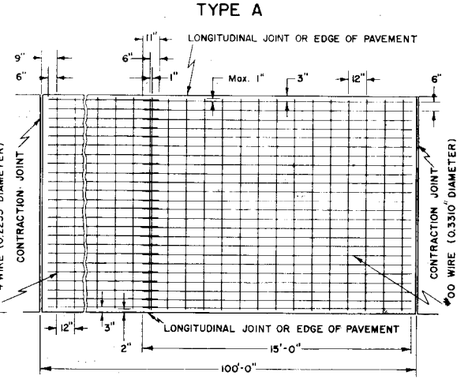


Approximate weight per 100 square feet = 80 pounds. The Pavement Fabric shall conform to the requirements of the Specifications for Fabricated Steel Bar or Rod Mats for Concrete Reinforcement, A.S.T.M. Designation A-184.

Hard grade billet-steel, hard grade axle-steel or rail-steel shall be used for the longitudinal bars. Intermediate grade billet-steel or axle-steel shall be used for the transverse bars. All bars shall meet the requirements specified in Article 710.13 of the Standard Specifications for Road and Bridge Construction.

Each bar intersection shall be clipped using #9 gage wire.

TYPE A



Approximate weight per 100 square feet = 78 pounds. The Pavement Fabric shall conform to the requirements of the Specifications for Welded Steel Wire Fabric for Concrete Reinforcement, A.S.T.M. Designation A-185. Welded wire fabric for concrete pavement may be furnished in either flat sheets or hinged, flat sheets; the method of hinging the hinged sheets shall meet the approval of the Engineer.

NOTE:

Pavement Fabric which is lapped transversely shall have a minimum lap of six (6) inches.

Pavement fabric may be placed in position with the transverse wires on top or bottom of the longitudinal wires.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BLDGS. DIVISION OF HIGHWAYS	ISSUED 2-1-54	
	REVISIONS	
PASSED Oct. 15 1969	WMS	11-19-58
	W.H.F.	7-3-61
ENGINEER OF ROAD PLANS AND CONTRACTS	G.R.	8-1-68
APPROVED Oct. 15 1969	W.F.	10-15-69
ENGINEER OF DESIGN		

STANDARD 2115-3

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

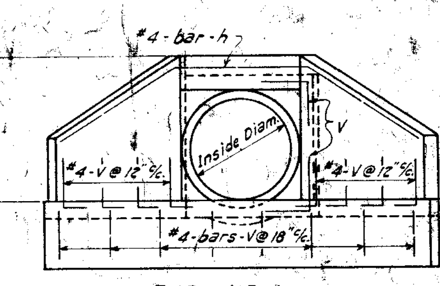
WINGS FOR [illegible]:1 SLOPE

Skew Angle	Design No.	Ins. Dia. of Pipe	A	B	C	D	E	F	G	H	J	K	M	N	∝	Conc. 2-H.W. Cu.Yds.	o	p	q	Lgth.	V-bars No.	Bars 2-H.W. Lbs.
			Dimensions for Concrete														Reinf. Bars - 2-H.W. h-bars					
5°	DS 15-1½	15"	2-4	0-10	2-5	1-7	6-11¾	3-5½	3-2	1-7	3-5¾	3-6	0-2¾	0-2¼	85°	1.4	3-6	1-9	3-9	9-0	28	70
	DS 18-1½	18"	2-4	1-1	2-8	1-10	7-2¾	3-5½	3-2	1-10	3-7¼	3-7½	"	"	"	1.6	3-6	2-0	3-9	9-3	28	70
	DS 24-1½	24"	2-10	1-4	3-3	2-6	8-10¾	4-2¼	3-10	2-6	4-5¼	4-5½	"	"	"	2.2	4-3	2-8	4-7	11-6	32	80
	DS 30-1½	30"	3-3	1-7	3-9	3-0	10-3	4-9¾	4-5	3-0	5-1¼	5-1¾	"	"	"	2.7	4-10	3-3	5-2	13-3	36	90
	DS 36-1½	36"	3-9	1-10	4-4	3-8¼	11-11	5-6½	5-1	3-8	5-11¼	5-11¾	0-2¾	0-2¼	85°	3.3	5-7	3-11	6-0	15-6	42	100
10°	DS 15-1½	15"	2-4	0-10	2-5	1-7¼	7-0½	3-7½	3-0½	1-7	3-6	3-6½	0-2¾	0-2¼	80°	1.5	3-4	1-10	3-10	9-0	28	70
	DS 18-1½	18"	2-4	1-1	2-8	1-10¼	7-3¾	3-7½	3-0½	1-10	3-7½	3-8¼	"	"	"	1.6	3-4	2-1	3-10	9-3	28	70
	DS 24-1½	24"	2-10	1-4	3-3	2-6½	9-0	4-5	3-8½	2-6	4-5¾	4-6¼	"	"	"	2.2	4-1	2-9	4-8	11-6	34	80
	DS 30-1½	30"	3-3	1-7	3-9	3-0½	10-4¼	5-0¾	4-3	3-0	5-1¾	5-2½	"	"	"	2.8	4-9	3-3	5-6	13-6	36	90
	DS 36-1½	36"	3-9	1-10	4-4	3-8¾	12-0½	5-10	4-10¾	3-8	6-0	6-0½	0-2¾	0-2¼	80°	3.5	5-6	3-11	6-4	15-9	42	110
15°	DS 15-1½	15"	2-4	0-10	2-5	1-7¾	7-2	3-10	2-11¼	1-7	3-6½	3-7½	0-3	0-2	75°	1.5	3-4	1-10	4-1	9-3	28	70
	DS 18-1½	18"	2-4	1-1	2-8	1-10¾	7-5¼	3-10	2-11¼	1-10	3-8	3-9¼	"	"	"	1.7	3-4	2-1	4-1	9-6	28	70
	DS 24-1½	24"	2-10	1-4	3-3	2-7	9-2	4-7¾	3-6¾	2-6	4-6½	4-7½	"	"	"	2.3	4-0	2-10	4-11	11-9	34	80
	DS 30-1½	30"	3-3	1-7	3-9	3-1¼	10-6½	5-4	4-1¼	3-0	5-2¾	5-3¾	"	"	"	2.9	4-8	3-4	5-9	13-9	40	100
	DS 36-1½	36"	3-9	1-10	4-4	3-9½	12-3¼	6-2	4-8¾	3-8	6-1	6-2¼	0-3	0-2	75°	3.8	5-3	4-0	6-6	15-9	46	110
20°	DS 15-1½	15"	2-4	0-10	2-5	1-8¼	7-4	4-0¾	2-10¼	1-7	3-7¼	3-8¾	0-3	0-2	70°	1.6	3-3	1-11	4-4	9-6	28	70
	DS 18-1½	18"	2-4	1-1	2-8	1-11½	7-7½	4-0¾	2-10¼	1-10	3-9	3-10½	"	"	"	1.7	3-3	2-2	4-4	9-9	28	70
	DS 24-1½	24"	2-10	1-4	3-3	2-8	9-4½	4-11¼	3-5½	2-6	4-7½	4-9	"	"	"	2.4	3-11	2-11	5-2	12-0	38	90
	DS 30-1½	30"	3-3	1-7	3-9	3-2¼	10-9¾	5-8	3-11½	3-0	5-4¼	5-5½	"	"	"	3.1	4-5	3-5	5-11	13-9	42	100
	DS 36-1½	36"	3-9	1-10	4-4	3-10¾	12-7	6-6½	4-7	3-8	6-2¾	6-4¼	0-3	0-2	70°	4.0	5-3	4-1	6-11	16-3	50	120
25°	DS 15-1½	15"	2-4	0-10	2-5	1-9	7-7	4-4	2-9¼	1-7	3-8½	3-10½	0-3¼	0-1¾	65°	1.6	3-3	1-11	4-7	9-9	28	70
	DS 18-1½	18"	2-4	1-1	2-8	2-0¼	7-10¼	4-4	2-9¼	1-10	3-10¼	4-0	"	"	"	1.8	3-2	2-3	4-7	10-0	32	80
	DS 24-1½	24"	2-10	1-4	3-3	2-9	9-8½	5-3¼	3-4¼	2-6	4-9¼	4-11¼	"	"	"	2.5	3-10	2-11	5-6	12-3	38	90
	DS 30-1½	30"	3-3	1-7	3-9	3-3¾	11-2	6-0½	3-10¼	3-0	5-6	5-8	"	"	"	3.3	4-5	3-6	6-4	14-3	44	110
	DS 36-1½	36"	3-9	1-10	4-4	4-0½	13-0¼	6-11¾	4-5¼	3-8	6-5¼	6-7	0-3¼	0-1¾	65°	4.3	5-0	4-3	7-3	16-6	50	120
30°	DS 15-1½	15"	2-4	0-10	2-5	1-10	7-10¾	4-8	2-8¼	1-7	3-10¼	4-0½	0-3½	0-1½	60°	1.7	3-1	2-0	4-11	10-0	36	90
	DS 18-1½	18"	2-4	1-1	2-8	2-1½	8-2¼	4-8	2-8¼	1-10	4-0	4-2¼	"	"	"	1.9	3-2	2-4	5-0	10-6	36	90
	DS 24-1½	24"	2-10	1-4	3-3	2-10¾	10-1¼	5-8	3-3¼	2-6	4-11½	5-1¾	"	"	"	2.7	3-9	3-1	5-11	12-9	40	100
	DS 30-1½	30"	3-3	1-7	3-9	3-5½	11-7¾	6-6	3-9	3-0	5-8¾	5-11	"	"	"	3.5	4-4	3-8	6-9	14-9	46	110
	DS 36-1½	36"	3-9	1-10	4-4	4-2¾	13-7	7-6	4-4	3-8	6-8½	6-10½	0-3½	0-1½	60°	4.6	5-0	4-5	7-10	17-3	54	130
35°	DS 15-1½	15"	2-4	0-10	2-5	1-11¼	8-3¾	5-0¾	2-7½	1-7	4-0½	4-3	0-3¾	0-1½	55°	1.8	3-1	2-2	5-3	10-6	36	90
	DS 18-1½	18"	2-4	1-1	2-8	2-3	8-7¼	5-0¾	2-7½	1-10	4-2¼	4-5	"	"	"	2.0	3-1	2-5	5-3	10-9	36	90
	DS 24-1½	24"	2-10	1-4	3-3	3-0½	10-7¾	6-1¾	3-2¼	2-6	5-2½	5-5¼	"	"	"	2.9	3-8	3-3	6-4	13-3	40	100
	DS 30-1½	30"	3-3	1-7	3-9	3-8	12-3¼	7-0½	3-8	3-0	6-0¼	6-3	"	"	"	3.7	4-2	3-11	7-2	15-3	50	120
	DS 36-1½	36"	3-9	1-10	4-4	4-5¾	14-3¾	8-1½	4-2¾	3-8	7-0½	7-3¼	0-3¾	0-1½	55°	4.9	4-11	4-8	8-5	18-0	56	140
40°	DS 15-1½	15"	2-4	0-10	2-5	2-0¾	8-10	5-6¼	2-7	1-7	4-3½	4-6½	0-3¾	0-1¼	50°	1.9	3-1	2-3	5-8	11-0	38	90
	DS 18-1½	18"	2-4	1-1	2-8	2-4¾	9-1¾	5-6¼	2-7	1-10	4-5½	4-8¼	"	"	"	2.2	3-0	2-7	5-8	11-3	38	90
	DS 24-1½	24"	2-10	1-4	3-3	3-3¼	11-4	6-8½	3-1½	2-6	5-6½	5-9½	"	"	"	3.1	3-8	3-6	6-10	14-0	48	110
	DS 30-1½	30"	3-3	1-7	3-9	3-11	13-0¾	7-8¼	3-7	3-0	6-5	6-7¾	"	"	"	4.0	4-2	4-2	7-11	16-3	54	130
	DS 36-1½	36"	3-9	1-10	4-4	4-9½	15-3	8-10½	4-1¾	3-8	7-6	7-9	0-3¾	0-1¼	50°	5.3	4-10	5-0	9-2	19-0	62	150
45°	DS 15-1½	15"	2-4	0-10	2-5	2-3	9-6	6-1¼	2-6¼	1-7	4-7½	4-10½	0-4	0-1¼	45°	2.1	3-0	2-5	6-1	11-6	40	100
	DS 18-1½	18"	2-4	1-1	2-8	2-7	9-10¼	6-1¼	2-6¼	1-10	4-9½	5-0¾	"	"	"	2.4	3-0	2-10	6-2	12-0	44	100
	DS 24-1½	24"	2-10	1-4	3-3	3-6½	12-2½	7-4¾	3-0¾	2-6	5-11½	6-3	"	"	"	3.4	3-8	3-9	7-7	15-0	50	120
	DS 30-1½	30"	3-3	1-7	3-9	4-3	14-1	8-6	3-6¼	3-0	6-11	7-2	"	"	"	4.4	4-2	4-5	8-8	[illegible]	62	150
	DS 36-1½	36"	3-9	1-10	4-4	5-2¼	16-5¼	9-9½	4-0¾	3-8	8-1	8-4½	0-4	0-1¼	45°	5.7	4-10	5-5	10-0	20-3	66	160
50°	DS 15-1½	15"	2-4	0-10	2-5	2-5¼	10-4½	6-10	2-5¾	1-7	5-0½	5-4	0-4¼	0-1	40°	2.3	2-11	2-8	6-11	12-6	46	110
	DS 18-1½	18"	2-4	1-1	2-8	2-10¼	10-9	6-10	2-5¾	1-10	5-2¾	5-6¼	"	"	"	2.6	3-0	3-1	6-11	13-0	46	110
	DS 24-1½	24"	2-10	1-4	3-3	3-10¾	13-4½	8-3½	3-0¼	2-6	6-6¼	6-10	"	"	"	3.7	3-7	4-1	8-4	16-0	56	130
	DS 30-1½	30"	3-3	1-7	3-9	4-8	15-5	9-6	3-5½	3-0	7-6¾	7-10¼	"	"	"	4.8	4-1	4-10	9-7	18-6	66	160
	DS 36-1½	36"	3-9	1-10	4-4	5-8½	18-0¼	10-11½	4-0	3-8	8-10¼	9-2	0-4¼	0-1	40°	6.3	4-9	5-11	11-1	21-9	74	180
55°	DS 15-1½	15"	2-4	0-10	2-5	2-9	11-6¼	7-9	2-5¼	1-7	5-7¼	5-11	0-4½	0-1	35°	2.6	2-11	3-0	7-10	13-9	50	120
	DS 18-1½	18"	2-4	1-1	2-8	3-2¼	11-11½	7-9	2-5¼	1-10	5-9¾	6-1¾	"	"	"	2.9	3-0	3-5	7-10	14-3	50	120
	DS 24-1½	24"	2-10	1-4	3-3	4-4¼	14-10½	9-5	2-11¾	2-6	7-3¼	7-7¾	"	"	"	4.2	3-6	4-7	9-5	17-6	62	150
	DS 30-1½	30"	3-3	1-7	3-9	5-2¾	17-2¼	10-9¾	3-5	3-0	8-5¼	8-9	"	"	"	5.4	4-1	5-6	10-11	20-6	74	180
	DS 36-1½	36"	3-9	1-10	4-4	6-4¾	20-1¼	12-5¾	3-11¼	3-8	9-10¾	10-2½	0-4½	0-1	35°	7.1	4-9	6-7	12-8	24-0	86	200
60°	DS 15-1½	15"	2-4	0-10	2-5	3-2	13-1¼	9-0¼	2-5	1-7	6-4½	6-8¾	0-4½	0-0¾	30°	2.9	2-10	[illegible]	[illegible]	[illegible]	54	130
	DS 18-1½	18"	2-4	1-1	2-8	3-8	13-7¼	9-0¼	2-5	1-10	6-7½	6-11¾	"	"	"	3.2	2-10	[illegible]	[illegible]	15-9	58	140
	DS 24-1½	24"	2-10	1-4	3-3	5-0	16-11¼	10-11¼	2-11¼	2-6	8-3½	8-7¾	"	"	"	4.7	3-6	[illegible]	[illegible]	19-9	72	170
	DS 30-1½	30"	3-3	1-7	3-9	6-0	19-7¼	12-6¾	3-4½	3-0	9-7½	9-11¾	"	"	"	6.1	4-1	[illegible]	[illegible]	23-0	82	200
	DS 36-1½	36"	3-9	1-10	4-4	7-4	22-11¼	14-5¾	3-10½	3-8	11-3½	11-7¾	0-4½	0-0¾	30°	8.1	4-7	[illegible]	[illegible]	26-9	98	230
Skew Angle	Design No.	Ins. Dia. of Pipe	A	B	C	D	E	F	G	H	J	K	M	N	∝	Conc. 2-H.W. Cu.Yds.	o	p	q	Lgth.	V-bars No.	Bars 2-H.W. Lbs.
			Dimensions for Concrete														Reinf. Bars - 2-H.W.					

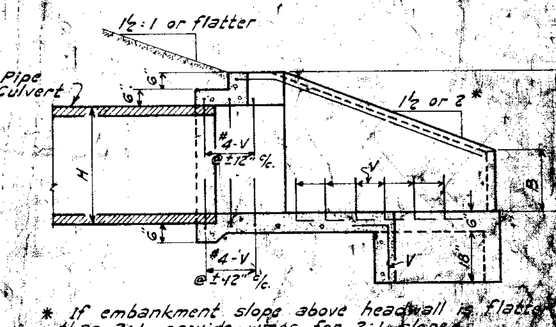
WINGS FOR 2:1 SLOPE

Skew Angle	Design No.	Ins. Dia. of Pipe	A	B	C	D	E	F	G	H	J	K	M	N	∝	Conc. 2-H.W. Cu.Yds.	o	p	q	Lgth.	V-bars No.	Bars 2-H.W. Lbs.
			Dimensions for Concrete														Reinf. Bars - 2-H.W. h-bars					
5°	DS 15-2	15"	3-2	0-10	2-5	1-7	8-7¾	4-8¼	4-3½	1-7	4-3¾	4-4	0-2¾	0-2¼	85°	1.9	4-7	1-9	4-11	11-3	34	80
	DS 18-2	18"	3-2	1-1	2-8	1-10	8-10¾	4-8¼	4-3½	1-10	4-5¼	4-5½	"	"	"	2.0	4-7	2-0	4-11	11-6	34	80
	DS 24-2	24"	3-10	1-4	3-3	2-6	10-11	5-8	5-2½	2-6	5-5¼	5-5¾	"	"	"	2.9	5-5	2-8	5-11	14-0	42	100
	DS 30-2	30"	4-4	1-7	3-9	3-0	12-5	6-5	5-10½	3-0	6-2¼	6-2¾	"	"	"	3.7	6-3	3-3	6-9	16-3	48	120
	DS 36-2	36"	5-0	1-10	4-4	3-8¼	14-5	7-4¾	6-9¼	3-8	7-2¼	7-2¾	0-2¾	0-2¼	85°	4.5	7-2	3-11	7-8	18-9	54	130
10°	DS 15-2	15"	3-2	0-10	2-5	1-7¼	8-9	4-11	4-1½	1-7	4-4	4-5	0-2¾	0-2¼	80°	2.0	4-4	1-10	5-1	11-3	34	80
	DS 18-2	18"	3-2	1-1	2-8	1-10¼	9-0	4-11	4-1½	1-10	4-5¾	4-6¼	"	"	"	2.1	4-4	2-1	5-1	11-6	34	80
	DS 24-2	24"	3-10	1-4	3-3	2-6½	11-0¼	5-11½	5-0	2-6	5-5¾	5-6½	"	"	"	3.0	5-4	2-9	6-2	14-3	42	100
	DS 30-2	30"	4-4	1-7	3-9	3-0½	12-6¾	6-9	5-8	3-0	6-3	6-3¾	"	"	"	3.8	6-0	3-3	7-0	16-3	48	120
	DS 36-2	36"	5-0	1-10	4-4	3-8¾	14-7	7-9¼	6-6¼	3-8	7-3	7-4	0-2¾	0-2¼	80°	4.7	7-0	3-11	8-1	19-0	54	130
15°	DS 15-2	15"	3-2	0-10	2-5	1-7¾	8-10¾	5-2½	4-0	1-7	4-4¾	4-6	0-3	0-2	75°	2.0	4-3	1-10	5-5	11-6	34	80
	DS 18-2	18"	3-2	1-1	2-8	1-10¾	9-2	5-2½	4-0	1-10	4-6½	4-7½	"	"	"	2.2	4-3	2-1	5-5	11-9	34	80
	DS 24-2	24"	3-10	1-4	3-3	2-7	11-2¾	6-3½	4-10	2-6	5-6¾	5-8	"	"	"	3.1	5-2	2-10	6-6	14-6	42	100
	DS 30-2	30"	4-4	1-7	3-9	3-1¼	12-9¼	7-1½	5-3½	3-0	6-4	6-5¼	"	"	"	3.9	5-10	3-4	7-4	16-6	52	130
	DS 36-2	36"	5-0	1-10	4-4	3-9½	14-10¼	8-2½	6-3½	3-8	7-4½	7-5¾	0-3	0-2	75°	5.0	6-9	4-0	8-6	19-3	56	140
20°	DS 15-2	15"	3-2	0-10	2-5	1-8¼	9-1½	5-6½	3-10½	1-7	4-6	4-7½	0-3	0-2	70°	2.1	4-2	1-11	5-8	11-9	36	90
	DS 18-2	18"	3-2	1-1	2-8	1-11½	9-4½	5-6½	3-10½	1-10	4-7½	4-9	"	"	"	2.3	4-2	2-2	5-8	12-0	36	90
	DS 24-2	24"	3-10	1-4	3-3	2-8	11-6¼	[illegible]	4-8¼	2-6	5-8½	5-9¾	"	"	"	3.2	5-0	2-11	6-10	14-9	48	120
	DS 30-2	30"	4-4	1-7	3-9	3-2¼	13-1¼	[illegible]	5-3½	3-0	6-6	6-7¼	"	"	"	4.1	5-9	3-5	7-10	17-0	52	130
	DS 36-2	36"	5-0	1-10	4-4	3-10¾	15-3	[illegible]	6-1¼	3-8	7-6¾	7-8¼	0-3	0-2	70°	5.3	6-6	4-1	8-11	19-6	58	140
25°	DS 15-2	15"	3-2	0-10	2-5	1-9	9-3	5-1¾	3-9	1-7	4-7½	4-9½	0-3¼	0-1¾	65°	2.2	4-1	1-11	6-0	12-0	38	90
	DS 18-2	18"	3-2	1-1	2-8	2-0¼	9-8½	[illegible]	3-9	1-10	4-9¼	4-11¼	"	"	"	2.4	4-0	2-3	6-0	12-3	42	100
	DS 24-2	24"	3-10	1-4	3-3	2-9	11-11	[illegible]	4-6½	2-6	5-10½	6-0½	"	"	"	3.4	4-11	3-0	7-4	15-3	48	120
	DS 30-2	30"	4-4	1-7	3-9	3-3¾	13-6¾	[illegible]	5-1¾	3-0	6-8½	6-10¼	"	"	"	4.3	5-6	3-6	8-3	17-3	52	130
	DS 36-2	36"	5-0	1-10	4-4	4-0½	15-9¼	[illegible]	5-11¼	3-8	7-9¾	7-11½	0-3¼	0-1¾	65°	5.6	6-5	4-3	9-7	20-3	60	150
30°	DS 15-2	15"	3-2	0-10	2-5	1-10	9-9¾	6-4	3-8	1-7	4-9¾	5-0	0-3½	0-1½	60°	2.3	4-0	2-0	6-6	12-6	42	100
	DS 18-2	18"	3-2	1-1	2-8	2-1½	10-1½	[illegible]	3-8	1-10	4-11½	5-2	"	"	"	2.5	4-0	2-4	6-5	12-9	42	100
	DS 24-2	24"	3-10	1-4	3-3	2-10¾	12-5	[illegible]	4-5	2-6	6-1½	6-3½	"	"	"	3.6	4-10	3-1	7-10	15-9	52	130
	DS 30-2	30"	4-4	1-7	3-9	3-5½	14-1¾	[illegible]	5-0	3-0	6-11¾	7-2	"	"	"	4.5	5-6	3-8	8-10	18-0	56	140
	DS 36-2	36"	5-0	1-10	4-4	4-2¾	16-3½	[illegible]	5-9¼	3-8	8-1¾	8-3¾	0-3½	0-1½	60°	5.4	6-4	4-5	10-3	21-0	66	160
35°	DS 15-2	15"	3-2	0-10	2-5	1-11¼	10-4	[illegible]	3-6¾	1-7	5-0¾	5-3¼	0-3¾	0-1½	55°	2.4	3-11	2-2	6-11	13-0	44	110
	DS 18-2	18"	3-2	1-1	2-8	2-3	10-7¾	[illegible]	3-6¾	1-10	5-2½	5-5¼	"	"	"	2.6	3-11	2-5	6-11	13-3	44	110
	DS 24-2	24"	3-10	1-4	3-3	3-0½	13-1	[illegible]	4-3¾	2-6	6-5¼	6-7¾	"	"	"	3.8	4-8	3-3	8-4	16-3	52	130
	DS 30-2	30"	4-4	1-7	3-9	3-8	14-11	9-4½	4-10½	3-0	7-4¼	7-6¾	"	"	"	4.8	5-4	3-11	9-6	18-9	60	150
	DS 36-2	36"	5-0	1-10	4-4	4-5¾	17-4¼	10-10	5-7¾	3-8	8-6¾	8-9½	0-3¾	0-1½	55°	6.3	6-1	4-8	11-0	21-9	70	170
40°	DS 15-2	15"	3-2	0-10	[illegible]	2-0¾	11-0	7-6	3-6	1-7	5-4½	5-7½	0-3¾	0-1¼	50°	2.6	3-10	2-4	7-7	13-9	48	120
	DS 18-2	18"	3-2	1-1	2-8	2-4¾	11-4	7-6	3-6	1-10	5-6½	5-9½	"	"	"	2.8	3-10	2-7	7-7	14-0	48	120
	DS 24-2	24"	3-10	1-4	3-3	3-3¼	13-11¼	9-0¾	4-2¾	2-6	6-10¼	7-1	"	"	"	4.1	4-7	3-6	9-2	17-3	58	140
	DS 30-2	30"	4-4	1-7	3-9	3-11	15-10¾	10-3	4-9½	3-0	7-10	8-0¾	"	"	"	5.2	5-3	4-2	10-4	19-9	64	150
	DS 36-2	36"	5-0	1-10	4-4	4-9½	18-6	11-10	5-6¼	3-8	9-1½	9-4½	0-3¾	0-1¼	50°	6.8	6-0	5-0	12-0	23-0	78	190
45°	DS 15-2	15"	3-2	0-10	2-5	2-3	11-10½	8-3¼	3-5¼	1-7	5-9½	6-0¾	0-4	0-1¼	45°	2.8	3-9	2-5	8-4	14-6	48	120
	DS 18-2	18"	3-2	1-1	2-8	2-7	[illegible]	8-3¼	3-5¼	1-10	5-11½	6-3	"	"	"	3.1	3-10	2-10	8-4	15-0	52	120
	DS 24-2	24"	3-10	1-4	3-3	3-6½	[illegible]	10-0¼	4-1¾	2-6	7-4½	7-7¾	"	"	"	4.4	4-6	3-9	10-0	18-3	60	140
	DS 30-2	30"	4-4	1-7	3-9	4-3	[illegible]	11-4	4-8¼	3-0	8-5¼	8-8½	"	"	"	5.6	5-2	4-5	11-5	21-0	72	170
	DS 36-2	36"	5-0	1-10	4-4	5-2¼	19-11¾	13-0¾	5-5	3-8	9-10¼	10-1½	0-4	0-1¼	45°	7.4	5-11	5-5	13-2	24-6	82	200
50°	DS 15-2	15"	3-2	0-10	[illegible]	[illegible]	[illegible]	[illegible]	3-4½	1-7	6-4	6-7½	0-4¼	0-1	40°	3.1	3-9	2-8	9-4	15-9	54	130
	DS 18-2	18"	3-2	1-1	[illegible]	[illegible]	[illegible]	[illegible]	3-4½	1-10	6-6¼	6-10	"	"	"	3.4	3-8	3-1	9-3	16-0	54	130
	DS 24-2	24"	3-10	1-4	3-3	[illegible]	[illegible]	[illegible]	4-1	2-6	8-1	8-4½	"	"	"	4.6	4-6	4-1	11-2	19-9	68	160
	DS 30-2	30"	4-4	1-7	3-9	[illegible]	[illegible]	[illegible]	4-7¼	3-0	9-3	9-6½	"	"	"	6.2	5-1	4-11	12-9	22-9	78	190
	DS 36-2	36"	5-0	1-10	[illegible]	[illegible]	[illegible]	[illegible]	5-3¾	3-8	10-9½	11-1¼	0-4¼	0-1	40°	8.1	5-10	5-11	14-9	26-6	90	220
55°	DS 15-2	15"	3-2	0-10	[illegible]	[illegible]	[illegible]	[illegible]	3-4	1-7	7-0½	7-4½	0-4½	0-1	35°	3.4	3-8	3-0	10-7	17-3	60	140
	DS 18-2	18"	3-2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3-4	1-10	7-3¼	7-7	"	"	"	3.7	3-9	3-5	10-7	17-9	60	140
	DS 24-2	24"	3-10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4-0¼	2-6	9-0¼	9-4	"	"	"	5.4	4-5	4-7	12-9	21-9	74	180
	DS 30-2	30"	4-4	[illegible]	3-9	[illegible]	[illegible]	[illegible]	4-6½	3-0	10-3½	10-7¾	"	"	"	6.9	5-1	5-5	14-6	25-6	88	210
	DS 36-2	36"	5-0	1-10	[illegible]	[illegible]	[illegible]	[illegible]	5-3	3-8	12-0¾	12-4¾	0-4½	0-1	35°	9.1	5-10	6-7	16-7	29-6	102	240
60°	DS 15-2	15"	3-2	[illegible]	2-5	3-2	[illegible]	[illegible]	3-3¼	1-7	8-0½	8-4¾	0-4½	0-0¾	30°	3.9	3-8	3-5	12-2	19-3	64	150
	DS 18-2	18"	3-2	1-1	2-8	3-8	[illegible]	[illegible]	3-3¼	1-10	8-3½	8-7¾	"	"	"	4.2	3-8	3-11	12-2	19-9	70	170
	DS 24-2	24"	3-10	[illegible]	3-3	[illegible]	[illegible]	[illegible]	3-11¾	2-6	10-3½	10-7¾	"	"	"	6.1	4-5	5-3	14-10	24-6	86	200
	DS 30-2	30"	4-4	1-7	[illegible]	[illegible]	[illegible]	[illegible]	4-5¾	3-0	11-9½	12-1¾	"	"	"	7.9	5-0	6-3	16-9	28-6	100	240
	DS 36-2	36"	5-0	1-10	[illegible]	[illegible]	[illegible]	[illegible]	5-2	[illegible]	13-9½	14-1¾	0-4½	0-0¾	30°	10.4	5-10	7-7	19-4	[illegible]	114	270
Skew Angle	Design No.	Ins. Dia. of Pipe	A	B	C	D	E	F	G	H	J	K	M	N	∝	Conc. 2-H.W. Cu.Yds.	o	p	q	Lgth.	V-bars No.	Bars 2-H.W. Lbs.
			Dimensions for Concrete														Reinf. Bars - 2-H.W. h-bars					

NOTE: [illegible] shall be round ASTM A305-49. The [illegible] number (indicated thus - #4) is the number of ⅛ inches in the nominal diameter.

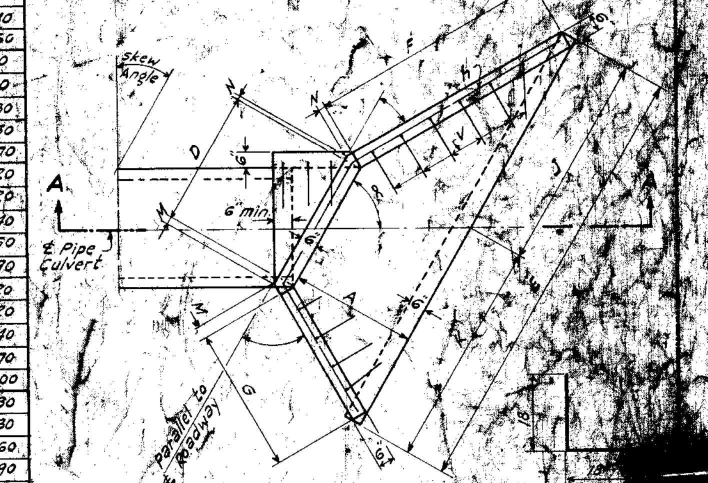


END VIEW



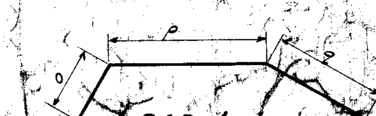
* If embankment slope above headwall is flatter than 2:1, provide wings for 2:1 slope.

SECTION A-A



PLAN

BAR-v



BAR-h

Bent in field
One required for each headwall

NOTES: - Class X concrete shall be used throughout.
Build tops of headwalls parallel to grade line.
This standard to be used for skew angles given.
For other skew angles use standard 1981.

DESIGNED	
CHECKED	
DRAWN	J. S. Malecki
CHECKED	

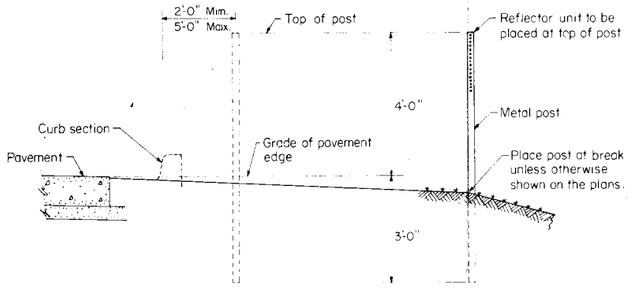
OCT. 5 1959
EXAMINED [signature] ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED [signature] ENGINEER OF DESIGN
APPROVED [signature] CHIEF HIGHWAY ENGINEER

Redrawn May 1952 Sign's. Rev. Nov. 58

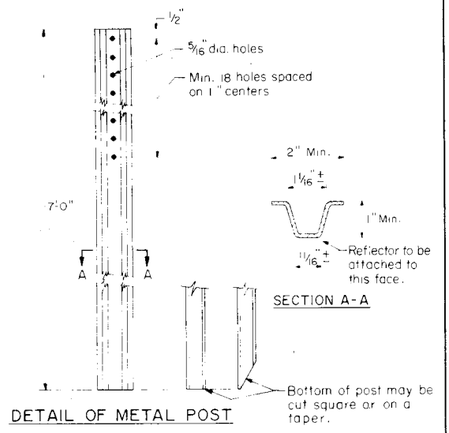
REINFORCED CONCRETE HEADWALLS
15" 18" 24" 30" & 36" DIAMETER
PIPE CULVERTS
SKEWED WITH ROADWAY

STANDARD 2051

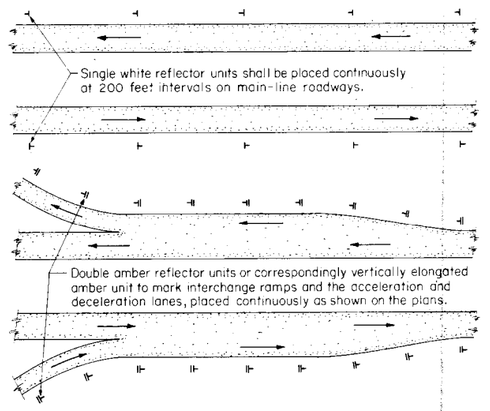
STANDARD DESIGN
DELINEATORS



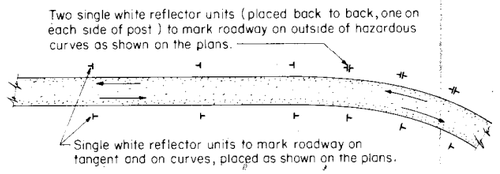
SECTIONAL VIEW



DETAIL OF METAL POST



PLAN VIEW FOR DUAL HIGHWAYS



PLAN VIEW FOR TWO-WAY ROADWAYS

SPACING FOR DELINEATORS ON HORIZONTAL CURVES

Radius of Curve (Feet)	Spacing on Curve (Feet)	Spacing in Advance and Beyond Curve (Feet)		
		1st. Space	2nd. Space	3rd. Space
Less than 100	20	40	65	125
100 - 174	30	60	90	180
175 - 224	35	70	110	200
225 - 274	40	85	125	200
275 - 349	50	95	145	200
350 - 449	55	110	170	200
450 - 549	65	125	190	200
550 - 649	70	140	200	200
650 - 749	75	150	200	200
750 - 849	80	165	200	200
850 - 949	85	175	200	200
950 - 1049	90	185	200	200
1050 - 1299	100	200	200	200
1300 - 1999	125	200	200	200
2000 - 2999	150	200	200	200
3000 - 3999	175	200	200	200
Greater than 3999	200	200	200	200

Delineators on tangent sections of main line roadways shall be placed at 200-foot spacing. Delineators on ramps and acceleration and deceleration lanes shall be placed at a maximum spacing of 100 feet.

NOTE

Materials and construction shall comply with the Standard Specifications for Delineators except the reflector unit shall be Type I only.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	ISSUED 6-15-60	
	REVISIONS	
PASSED Mar. 5, 1971	W.F.	12-23-66
A V VanAusdall Engineer of Road Plans And Contracts	G.R.	8-1-68
APPROVED Mar. 5, 1971	W.F.	12-1-69
Engineer of Design	W.F.	3-5-71

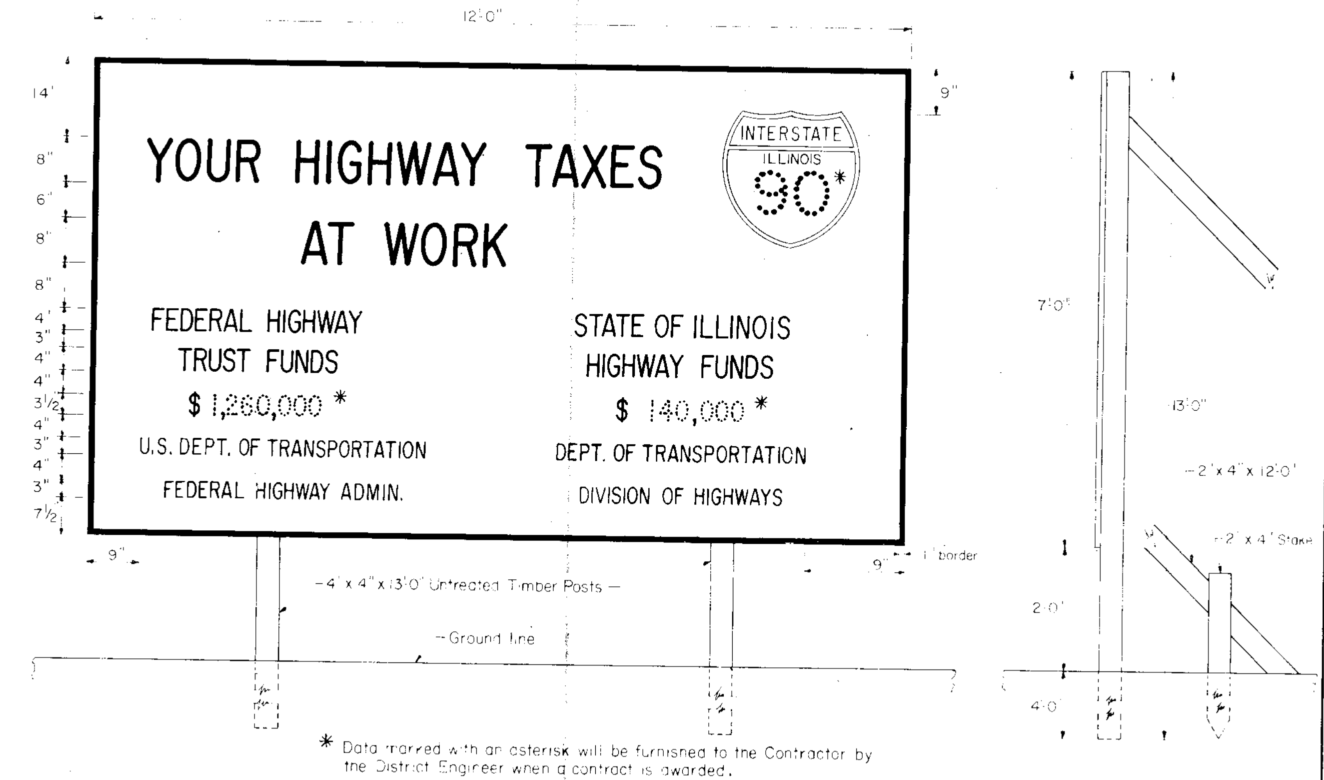
STANDARD 2149-8

(1/2 Size) Redrawn WF

STANDARD DESIGN

SIGN FOR INTERSTATE SYSTEM PROJECT

(FEDERAL AND STATE)



* Data marked with an asterisk will be furnished to the Contractor by the District Engineer when a contract is awarded.

Signs shall be made of wood (1" lumber rigidly cleated); or of metal (18 gage); or of B-B Exterior High Density Overlay (both sides) Douglas Fir Plywood conforming to the requirements set forth in Commercial Standard CS 45-55 published by the U.S. Department of Commerce (5/8" thick). When plywood is used, the four edges shall be sealed with aluminum paint conforming to the requirements of Article 712.23 of the Standard Specifications.

The Contractor shall furnish all the material, including shields, and labor for constructing and erecting the signs. The signs shall be placed prior to the starting of actual construction operations. Before any sign is erected, it shall be approved by the Engineer as to its appearance and quality of construction. The signs shall remain in place and shall be maintained in satisfactory condition until the project is accepted by the Department. The Contractor shall then remove the signs and the material, including shields, will become his property.

The border shall be black and the letters printed black on a white background. The letters, width of stroke, width of letters, and shape shall be Series C of the "Standard Alphabets for Highway Signs, Public Roads Administration, Federal Works Agency, 1952".

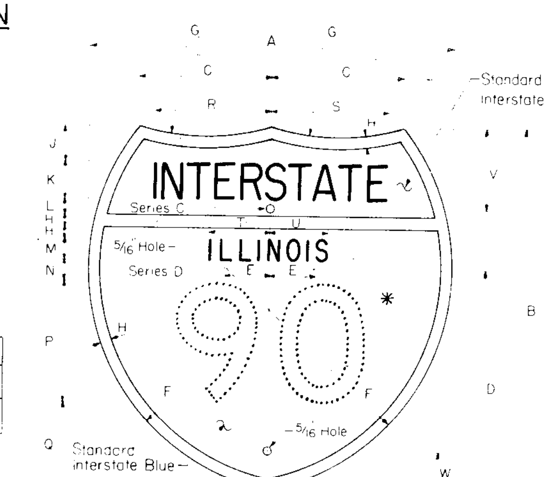
The number of signs and their location will be shown on the plans. The cost of the signs, the erection and later removal of the signs shall be incidental to the cost of construction.

SHIELD FOR SIGN

Shields shall be made of Aluminum Alloy Sheet and Plate, A.S.T.M. Designation: B 209, Alloy G.S. 11A-T6; or of steel (18 gage); or B-B Exterior, High Density Overlay (both sides) Douglas Fir Plywood conforming to the requirements set forth in Commercial Standard CS 45-55 published by the U.S. Department of Commerce (5/8" thick). When plywood is used, the edge of the shield shall be sealed with aluminum paint conforming to the requirements of Article 712.13 of the Standard Specifications.

Reflectorized material shall not be used.

Mounting hardware shall be rust proof.



Shield No	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W.
MI-3-2424	24	24	$8\frac{3}{4}$	$14\frac{11}{16}$	3	15	15	$\frac{3}{4}$	$2\frac{3}{8}$	$2\frac{1}{2}$	1	$1\frac{1}{2}$	$1\frac{3}{8}$	8	$5\frac{3}{4}$	$7\frac{45}{64}$	$7\frac{13}{16}$	$3\frac{55}{64}$	$3\frac{15}{16}$	$5\frac{3}{8}$	$2\frac{5}{8}$
MI-3-3025	30	25	$12\frac{3}{4}$	$16\frac{11}{16}$	$1\frac{3}{4}$	$16\frac{3}{4}$	$17\frac{1}{2}$	$\frac{3}{4}$	$2\frac{5}{8}$	$2\frac{1}{2}$	$\frac{7}{8}$	$1\frac{1}{2}$	$2\frac{1}{4}$	8	$5\frac{3}{4}$	$7\frac{45}{64}$	$7\frac{13}{16}$	$3\frac{55}{64}$	$3\frac{15}{16}$	$5\frac{3}{8}$	$3\frac{5}{8}$

NOTE:

Use Shield No. MI-3-2424 for two digit route number.
Use Shield No MI-3-3025 for three digit route number.

Background, as indicated, Red or Blue; the colors to conform to the standard colors shown in the A.A.S.H.O. "Manual for Signing and Pavement Marking of the National System of Interstate and Defense Highways."

Letters, numerals, and border, White.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PASSED May 15, 1972
(signature)
Engineer of Road Plans And Contracts

APPROVED May 15, 1972
(signature)
Engineer of Design

ISSUED 11-30-60			
REVISIONS			
W.F.	4-1-64	W.F.	5-15-72
W.F.	5-22-67		
W.F.	9-22-67		
G.R.	8-1-68		
W.F.	10-1-70		

STANDARD 2153-9

Half Size; Redrawn 4-1-64

STANDARD DESIGN

SIGN FOR PRIMARY AND SECONDARY SYSTEM PROJECTS

(FEDERAL , STATE AND COUNTY)

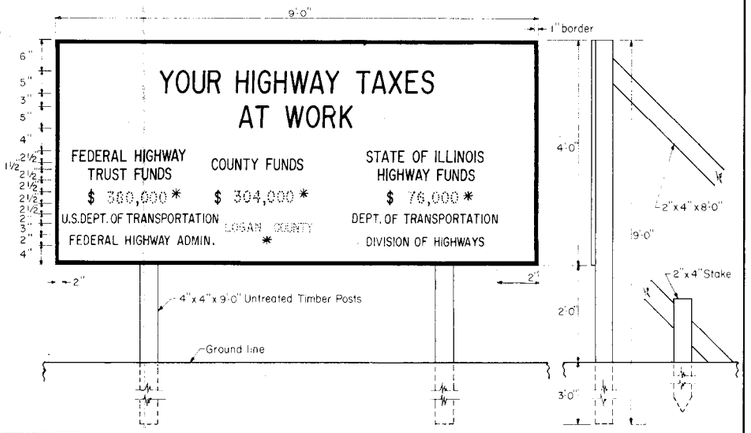
GENERAL NOTES

Signs shall be made of wood (1" lumber rigidly cleated); or of metal (18 gage); or of B-B Exterior, High Density Overlay (both sides) Douglas Fir Plywood conforming to the requirements set forth in Commercial Standard CS 45-55 published by the U.S. Department of Commerce (⅝ thick). When plywood is used, the four edges shall be sealed with aluminum paint conforming to the requirements of Article 712.23 of the Standard Specifications.

The Contractor shall furnish all material and labor for constructing and erecting the signs. The signs shall be placed prior to the starting of actual construction operations. Before any sign is erected, it shall be approved by the Engineer as to its appearance and quality of construction. The signs shall remain in place and shall be maintained in a satisfactory condition until the project is accepted by the Department. The Contractor shall then remove the signs and the material will become his property.

The border shall be black and the letters printed black on a white background. The letters, width of stroke, width of letters, and shape shall be Series C of the "Standard Alphabets for Highway Signs, Public Roads Administration, Federal Works Agency, 1952".

The number of signs and their location will be shown on the plans. The cost of the signs, the erection and later removal of the signs shall be incidental to the cost of construction.



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	ISSUED 11-30-60			
	REVISIONS			
PASSED May 15, 1972	W.F.	4-1-64	W.F.	5-15-72
A.V. Van Ausdall, Engineer of Road Plans And Contracts	W.F.	5-22-67		
APPROVED May 15, 1972	W.F.	9-22-67		
W.E. Baumann, Engineer of Design	G.R.	8-1-68		
	W.F.	10-1-70		

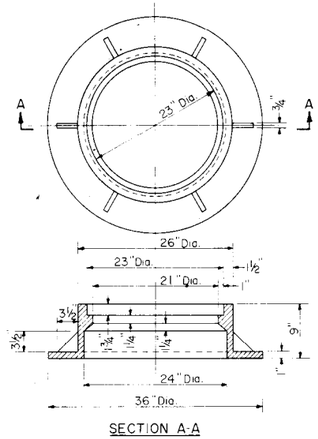
* Data marked with an asterisk will be furnished to the Contractor by the District Engineer when a contract is awarded.

STANDARD 2159-7

1/4 Size, Redrawn 4-1-64 W.F.

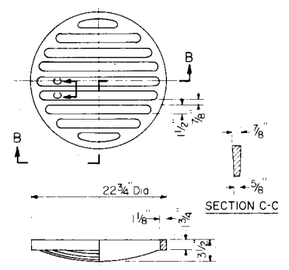
STANDARD DESIGN

FRAME AND LIDS TYPE I



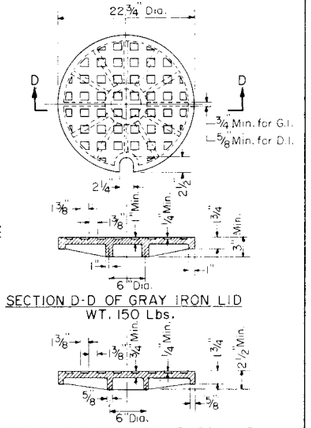
SECTION A-A

FRAME
WT. 390 Lbs.



SECTION B-B

OPEN LID
WT. 116 Lbs.



CLOSED LID

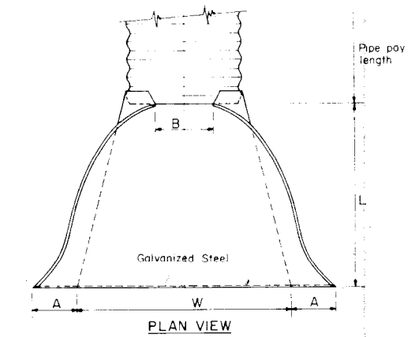
STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	ISSUED 1-4-65	
	REVISIONS	
PASSED Jan. 17, 1972	W.F.	9-15-65
A.V. Van Ausdall, Engineer of Road Plans And Contracts	W.F.	3-11-68
APPROVED Jan. 17, 1972	W.F.	1-17-72
W.E. Baumann, Engineer of Design		

The open and closed lids may be made of either Gray Iron conforming to the Standard Specifications or Ductile Iron conforming to the Specifications for Ductile Iron Casting, A.S.T.M. Designation: A536, Grade 60-40-18, and shall be proof loaded in accordance with Federal Specifications RR-F-621b, Section 3.8. The proof load shall be 25,000 lbs. on a 9" x 9" cast block.

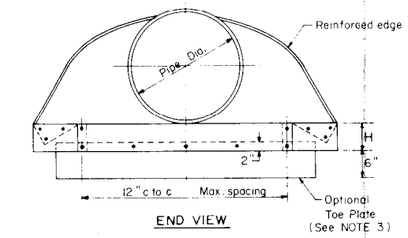
STANDARD 2213-3

(1/4 Size) W.F.

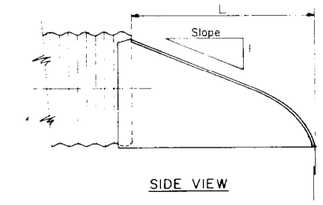
STANDARD DESIGN
METAL END SECTION FOR PIPE CULVERTS



PLAN VIEW



END VIEW



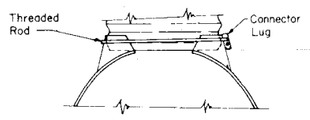
SIDE VIEW

PIPE DIA.	GA.	DIMENSIONS A (1" ±)	B (Max)	H (1" ±)	L (1½ ±)	W (2" ±)	SLOPE (Approx)	BODY
12	16	6	6	6	21	24	2½	1 Pc.
15	16	7	8	6	26	30	2½	1 Pc.
18	16	8	10	6	31	36	2½	1 Pc.
21	16	9	12	6	36	42	2½	1 Pc.
24	16	10	13	6	41	48	2½	1 Pc.
30	14	12	16	8	51	60	2½	1 Pc
36	14	14	19	9	60	72	2½	2 Pc
42	12	16	22	11	69	84	2½	2 Pc
48	12	18	27	12	78	90	2¼	2 Pc
54	12	18	30	12	84	102	2	2 Pc
60	12	18	33	12	87	114	1¾	3 Pc
66	12	18	36	12	87	120	1½	3 Pc
72	12	18	39	12	87	126	1⅓	3 Pc
78	12	18	42	12	87	132	1¼	3 Pc.
84	12	18	45	12	87	138	1⅙	3 Pc

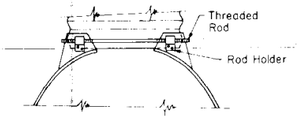
NOTES:

1. All 3 piece bodies shall have 12 Ga. sides and 10 Ga. center panels. Width of center panels shall be greater than 20% of the pipe periphery. Multiple panel bodies shall have lap seams which shall be tightly jointed with ⅜ Φ galvanized rivets or bolts.
2. For 60" thru 84" sizes, reinforced edges shall be supplemented with galvanized stiffener angles. The angles shall be 2" x 2" x ¼" for 60" thru 72" diameter and 2½" x 2½" x ¼" for 78" and 84" diameter. The angles shall be attached by ⅜ Φ galvanized rivets or bolts.
3. The galvanized toe plate shall be furnished only when shown on the plans or when specified in the special provisions.
4. If aluminum alloy pipe culvert is furnished, aluminum alloy end sections shall also be used and all component parts shall be aluminum alloy.

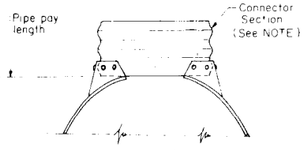
CONNECTIONS OF END SECTION



TYPE #1
For 12" thru 24" only



TYPE #2
For 30" thru 36" only

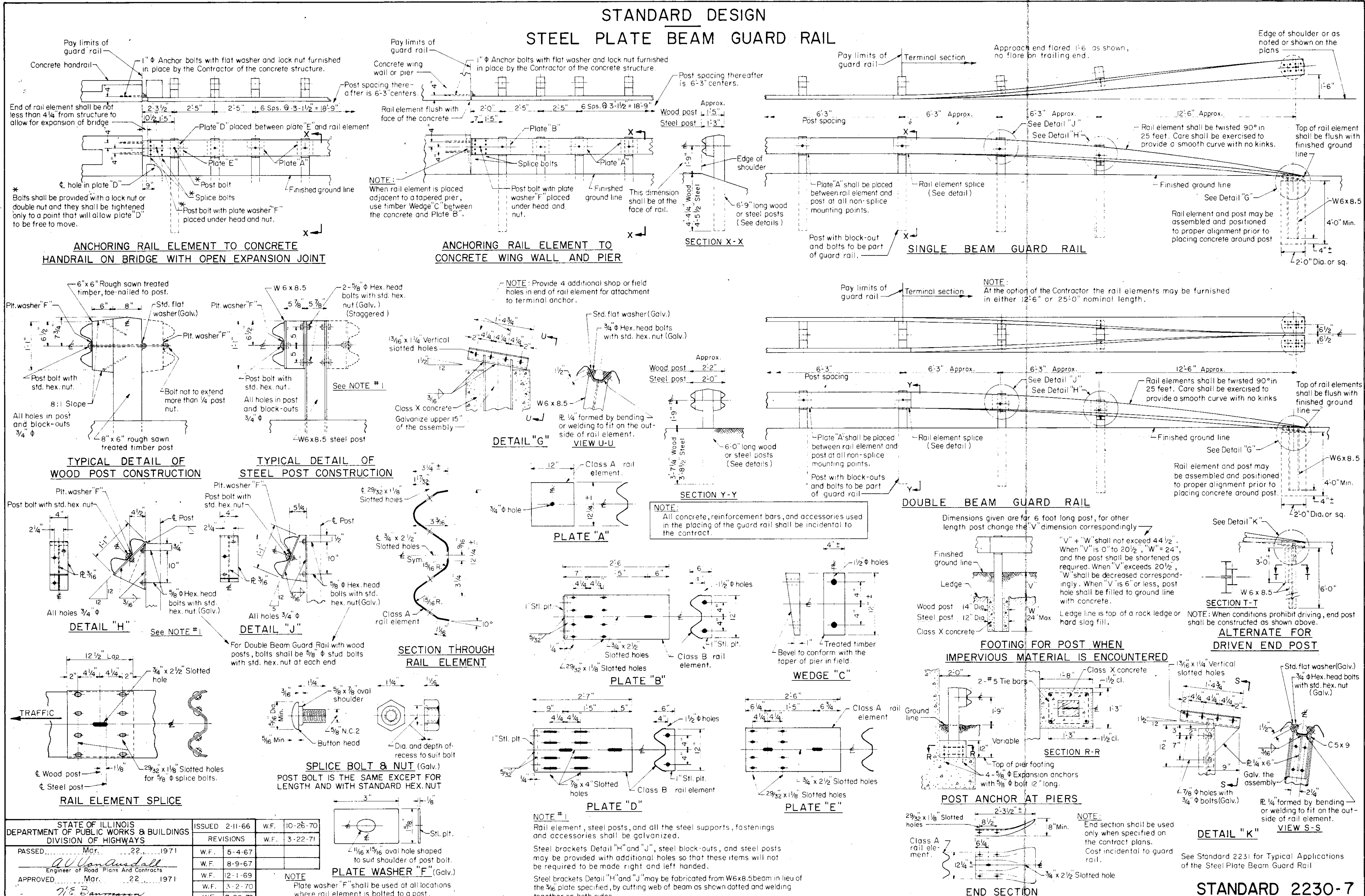


TYPE #3
For 42" thru 84" only

NOTE:
The # 3 connection includes one foot of pipe length for 42" thur 84" diameter as a connector section. The connector section shall be attached to the Metal End Section by galvanized rivets or bolts. The length of pipe connector section will be measured and paid for as part of the pipe culvert being furnished.

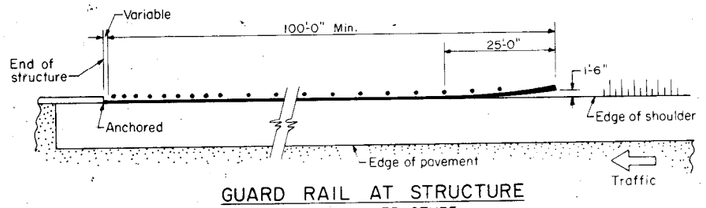
STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	ISSUED 12-9-65	
	REVISIONS	
PASSED Jan. 17 1972	G R	8-1-68
R V Van Arsdell Engineer of Road Plans And Contracts	W.F.	1-17-72
APPROVED Jan. 17 1972		
M E Baumann Engineer of Design		

STANDARD 2228-2
(Half Size) W.F.

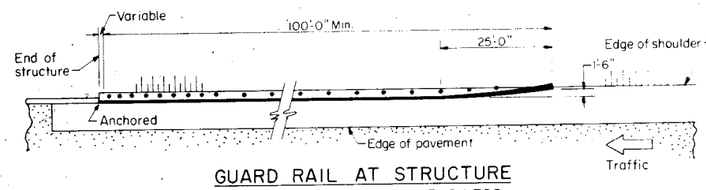

STANDARD DESIGN
STEEL PLATE BEAM GUARD RAIL
ANCHORING RAIL ELEMENT TO CONCRETE HANDRAIL ON BRIDGE WITH OPEN EXPANSION JOINT
Pay limits of guard rail
Concrete handrail
1" Φ Anchor bolts with flat washer and lock nut furnished in place by the Contractor of the concrete structure.
Post spacing thereafter is 6'-3" centers
End of rail element shall be not less than 4 1/4" from structure to allow for expansion of bridge
Plate "D" placed between plate "E" and rail element
Plate "E"
Plate "A"
℄ hole in plate "D"
Post bolt
Splice bolts
Post bolt with plate washer "F" placed under head and nut.
Finished ground line
* Bolts shall be provided with a lock nut or double nut and they shall be tightened only to a point that will allow plate "D" to be free to move.
ANCHORING RAIL ELEMENT TO CONCRETE WING WALL AND PIER
Concrete wing wall or pier
Rail element flush with face of the concrete
Plate "B"
Splice bolts
NOTE: When rail element is placed adjacent to a tapered pier, use timber Wedge "C" between the concrete and Plate "B".
Post bolt with plate washer "F" placed under head and nut.
This dimension shall be of the face of rail.
SECTION X-X
Post spacing thereafter is 6'-3" centers.
Wood post 1'-5"
Steel post 1'-3"
Edge of shoulder
6'-9" long wood or steel posts (See details)
SINGLE BEAM GUARD RAIL
Terminal section
Approach end flared 1'-6" as shown, no flare on trailing end.
Edge of shoulder or as noted or shown on the plans
Post spacing
See Detail "J"
See Detail "H"
Rail element shall be twisted 90° in 25 feet. Care shall be exercised to provide a smooth curve with no kinks.
Top of rail element shall be flush with finished ground line
Plate "A" shall be placed between rail element and post at all non-splice mounting points.
Rail element splice (See detail)
Post with block-out and bolts to be part of guard rail.
See Detail "G"
Rail element and post may be assembled and positioned to proper alignment prior to placing concrete around post
W6x8.5
4'-0" Min.
2'-0" Dia. or sq.
NOTE: At the option of the Contractor the rail elements may be furnished in either 12'-6" or 25'-0" nominal length.
DOUBLE BEAM GUARD RAIL
Rail elements shall be twisted 90° in 25 feet. Care shall be exercised to provide a smooth curve with no kinks
SECTION Y-Y
Wood post 2'-2"
Steel post 2'-0"
6'-0" long wood or steel posts (See details)
NOTE: All concrete, reinforcement bars, and accessories used in the placing of the guard rail shall be incidental to the contract.
TYPICAL DETAIL OF WOOD POST CONSTRUCTION
6"x6" Rough sawn treated timber, toe-nailed to post.
Plt. washer "F"
Std. flat washer (Galv.)
Post bolt with std. hex. nut.
8:1 Slope
Bolt not to extend more than 1/4" post nut.
All holes in post and block-outs 3/4" Φ
8"x6" rough sawn treated timber post
TYPICAL DETAIL OF STEEL POST CONSTRUCTION
W6x8.5
2-5/8" Φ Hex. head bolts with std. hex. nut (Galv.) (Staggered)
All holes in post and block-outs 3/4" Φ
W6x8.5 steel post
See NOTE #1
NOTE: Provide 4 additional shop or field holes in end of rail element for attachment to terminal anchor.
13/16" x 1 1/4" Vertical slotted holes
Class X concrete
Galvanize upper 15" of the assembly
DETAIL "G"
Std. flat washer (Galv.)
3/4" Φ Hex. head bolts with std. hex. nut (Galv.)
℞ 1/4" formed by bending or welding to fit on the outside of rail element.
VIEW U-U
DETAIL "H"
All holes 3/4" Φ
5/8" Φ Hex. head bolts with std. hex. nut (Galv.)
DETAIL "J"
For Double Beam Guard Rail with wood posts, bolts shall be 5/8" Φ stud bolts with std. hex. nut at each end
SECTION THROUGH RAIL ELEMENT
29/32" x 1 1/8" Slotted holes
3/4" x 2 1/2" Slotted holes
Class A rail element
PLATE "A"
3/4" Φ hole
PLATE "B"
1 1/2" Φ holes
Class B rail element.
WEDGE "C"
Bevel to conform with the taper of pier in field.
Treated timber
FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED
Dimensions given are for 6 foot long post, for other length post change the "V" dimension correspondingly
"V" + "W" shall not exceed 44 1/2". When "V" is 0" to 20 1/2", "W" = 24", and the post shall be shortened as required. When "V" exceeds 20 1/2", "W" shall be decreased correspondingly. When "V" is 6" or less, post hole shall be filled to ground line with concrete.
Ledge line is top of a rock ledge or hard slag fill.
Finished ground line
Ledge
Wood post 14" Dia.
Steel post 12" Dia.
Class X concrete
24" Max
SECTION T-T
NOTE: When conditions prohibit driving, end post shall be constructed as shown above.
ALTERNATE FOR DRIVEN END POST
See Detail "K"
RAIL ELEMENT SPLICE
12 1/2" Lap
3/4" x 2 1/2" Slotted hole
TRAFFIC
29/32" x 1 1/8" Slotted holes for 5/8" Φ splice bolts.
℄ Wood post
℄ Steel post
SPLICE BOLT & NUT (Galv.)
POST BOLT IS THE SAME EXCEPT FOR LENGTH AND WITH STANDARD HEX. NUT
5/8" x 7/8" oval shoulder
5/8" N.C.2
Button head
Dia. and depth of recess to suit bolt
PLATE "D"
7/8" x 4" Slotted holes
1" Stl. plt.
PLATE "E"
PLATE WASHER "F" (Galv.)
11/16" x 15/16" oval hole shaped to suit shoulder of post bolt.
NOTE: Plate washer "F" shall be used at all locations where rail element is bolted to a post.
POST ANCHOR AT PIERS
2-#5 Tie bars
Top of pier footing
4-5/8" Φ Expansion anchors with 5/8" Φ bolt 12" long.
SECTION R-R
END SECTION
NOTE: End section shall be used only when specified on the contract plans. Cost incidental to guard rail.
DETAIL "K"
C5x9
℞ 1/4" x 6"
Galv. the assembly
7/8" Φ holes with 3/4" Φ bolts (Galv.)
℞ 1/4" formed by bending or welding to fit on the outside of rail element.
VIEW S-S
See Standard 2231 for Typical Applications of the Steel Plate Beam Guard Rail
NOTE #1
Rail element, steel posts, and all the steel supports, fastenings and accessories shall be galvanized.
Steel brackets Detail "H" and "J", steel block-outs, and steel posts may be provided with additional holes so that these items will not be required to be made right and left handed.
Steel brackets Detail "H" and "J" may be fabricated from W6x8.5 beam in lieu of the 3/16" plate specified, by cutting web of beam as shown dotted and welding together on both sides.
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
PASSED Mar. 22, 1971
Engineer of Road Plans And Contracts
APPROVED Mar. 22, 1971
Engineer of Design
ISSUED 2-11-66
REVISIONS
W.F. 5-4-67
W.F. 8-9-67
W.F. 12-1-69
W.F. 3-2-70
W.F. 7-29-70
W.F. 10-26-70
W.F. 3-22-71
REDRAWN 5-4-67
STANDARD 2230-7
(Full Size)

STANDARD DESIGN

TYPICAL APPLICATIONS OF STEEL PLATE BEAM GUARD RAIL

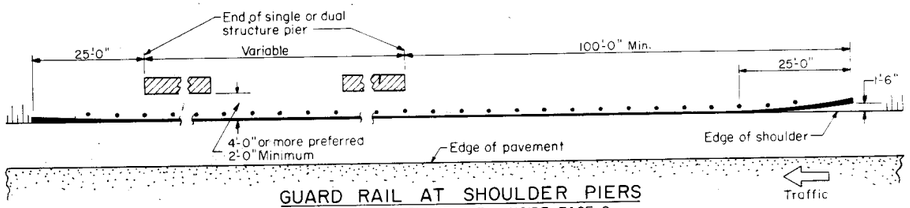


GUARD RAIL AT STRUCTURE
INSIDE FACE OF STRUCTURE
IS FULL WIDTH OF SHOULDER

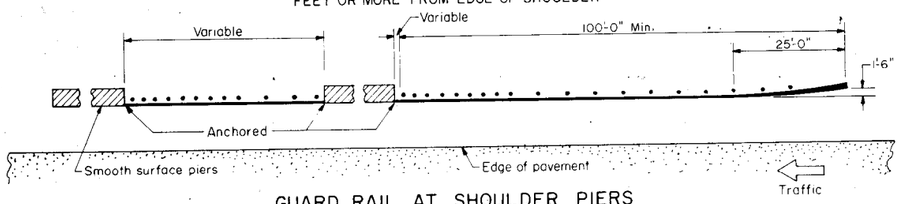


GUARD RAIL AT STRUCTURE
INSIDE FACE OF STRUCTURE IS LESS
THAN FULL WIDTH OF SHOULDER

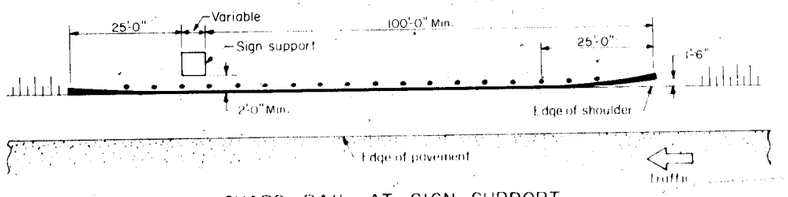
The first 25 feet of Guard Rail that is adjacent to and anchored to a structure or pier shall have the close post spacing as noted and shown on Standard 2230.



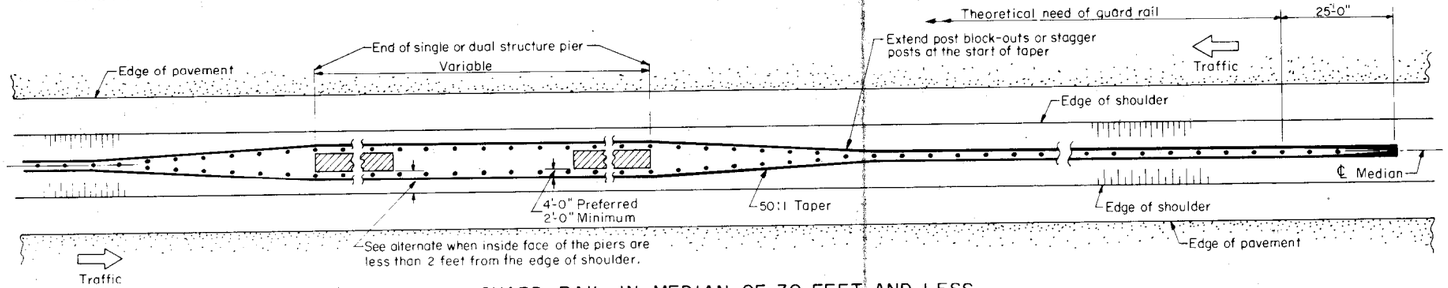
GUARD RAIL AT SHOULDER PIERS
PIER ON SIDE SLOPE WITH INSIDE FACE 2
FEET OR MORE FROM EDGE OF SHOULDER



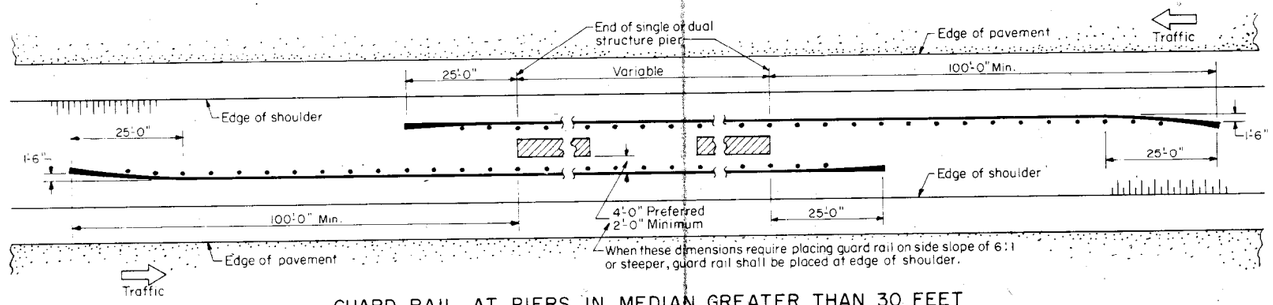
GUARD RAIL AT SHOULDER PIERS
INSIDE FACE OF PIER AT EDGE OF SHOULDER
OR LESS THAN FULL WIDTH OF SHOUDER



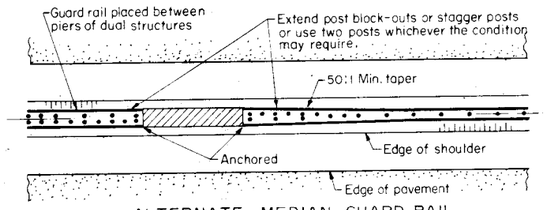
GUARD RAIL AT SIGN SUPPORT



GUARD RAIL IN MEDIAN OF 30 FEET AND LESS

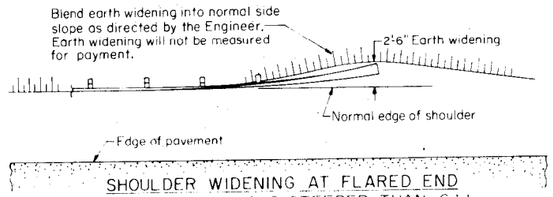


GUARD RAIL AT PIERS IN MEDIAN GREATER THAN 30 FEET

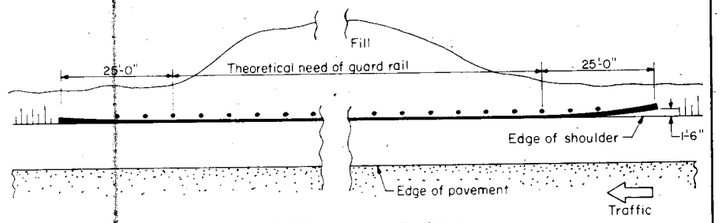


ALTERNATE MEDIAN GUARD RAIL

NOTE: Alternate to be used only when clearance will not permit guard rail on outside of pier.



SHOULDER WIDENING AT FLARED END
WHEN SIDE SLOPE IS STEEPER THAN 6:1



GUARD RAIL AT FILL

GUARD RAIL TREATMENT AT STRUCTURES:

For two-lane, two-way highway a minimum of 100 feet of single beam guard rail shall be placed at both ends of the structure and on both sides of the highway.

For dual highways where roadways have independent alignment place guard rail at approach end of the structure only, in accordance with the requirements for two-lane, two-way highway. Where roadways are separated by a median see Standard 2253 for guard rail placement on left shoulder.

GUARD RAIL TREATMENT AT SHOULDER PIERS:

Single beam guard rail shall be placed as shown at shoulder piers when the face of pier is less than 30 feet from edge of pavement.

GUARD RAIL TREATMENT AT MEDIAN:

Single beam guard rail shall be placed as shown at median piers when the face of pier is less than 30 feet from edge of pavement.

Double beam guard rail shall be placed as shown in medians having a width of 30 feet or less on multi-lane Trunk, Major, Area Service, and Collector class highways.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	REVISED
PASSED Dec. 1 1959 Engineer of Road Plans And Contracts APPROVED Dec. 1 1959 Engineer of Design	WI

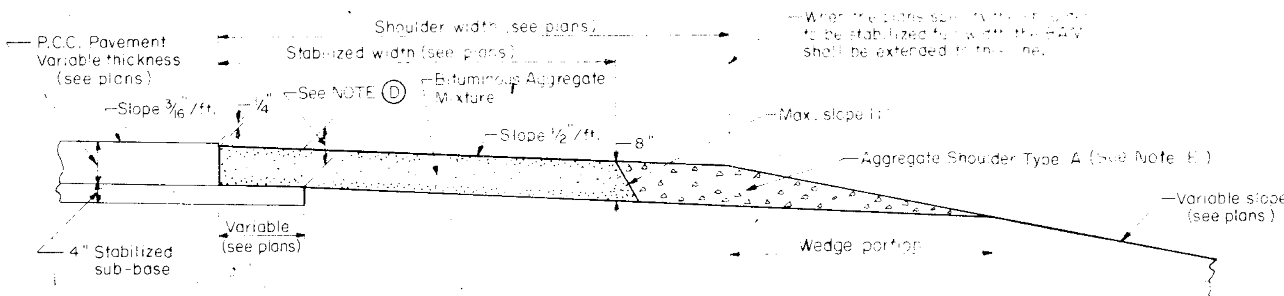
For details of the Steel Plate Beam Guard Rail see Standard 2230

STANDARD 2231-3

Effective WI

STANDARD DESIGN
SHOULDER DETAILS

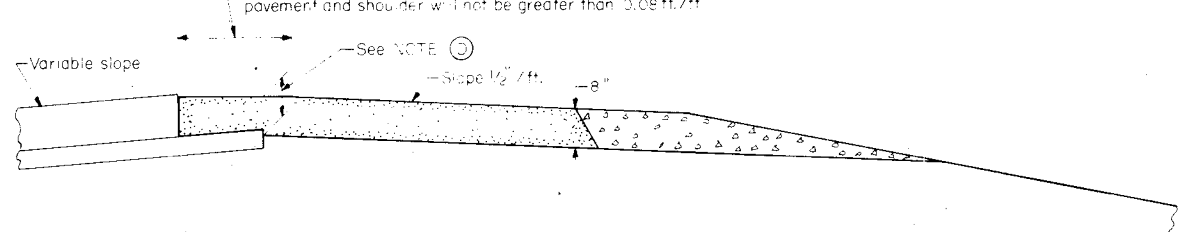
SHOULDER WITH B.A.M. STABILIZATION



SHOULDER FOR TANGENT PAVEMENT

NOTE "D"
This thickness will vary with the thickness of pavement, extended length of sub-base, and the slope of pavement. When this thickness is less than 8 inches the stabilized shoulder shall be stepped down at this line to provide an 8 inch minimum thick stabilized shoulder.

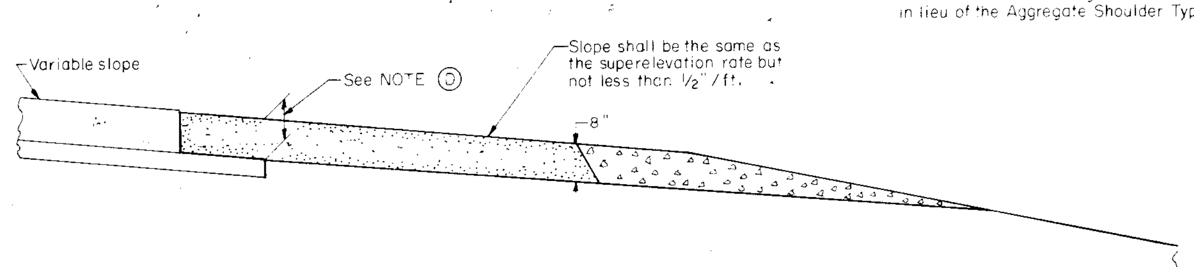
When the superelevation of pavement exceeds 0.04 ft./ft. a 2 foot portion of the shoulder that is adjacent to pavement shall be sloped so that the algebraic difference between pavement and shoulder will not be greater than 0.08 ft./ft.



SHOULDER FOR SUPERELEVATED PAVEMENT
(OUTSIDE OF CURVE)

NOTE-
Except as noted or shown the dimensions and notes specified for the shoulder of tangent pavement are typical for the shoulders of superelevated pavement.

NOTE "E"
The wedge portion of the Aggregate Shoulder Type A may be compacted in accordance with Type B shoulder requirements.
When the shoulder is stabilized with BAM or PCC full width the wedge portion shall be earth in lieu of the Aggregate Shoulder Type A.



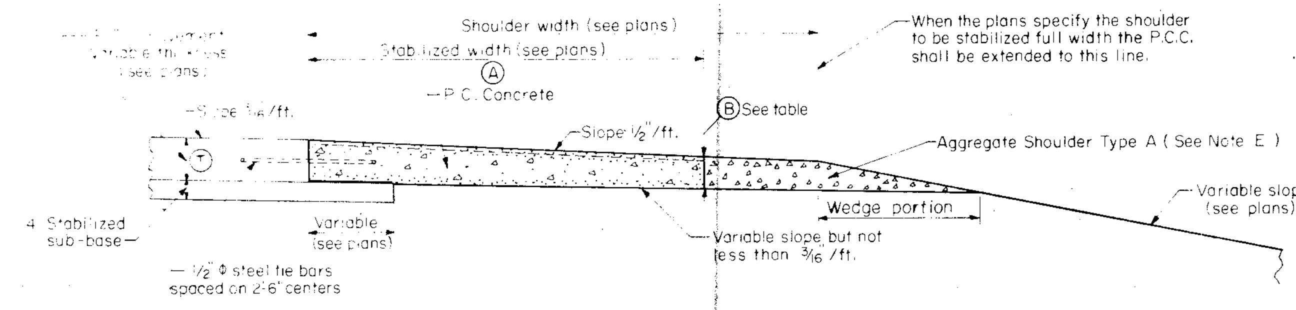
SHOULDER FOR SUPERELEVATED PAVEMENT
(INSIDE OF CURVE)

GENERAL NOTES

Only one type of shoulder shall be used throughout [illegible]

The cost of furnishing and placing the tie bars, furnishing and placing [illegible] material, constructing the transverse grooves, and [illegible] multiple corrugations [illegible] will be paid for [illegible] included in [illegible]

SHOULDER WITH P.C.C. STABILIZATION



Tie bars shall be in accordance with details for Bulkhead Longitudinal Construction Joint shown on Std. 2323.

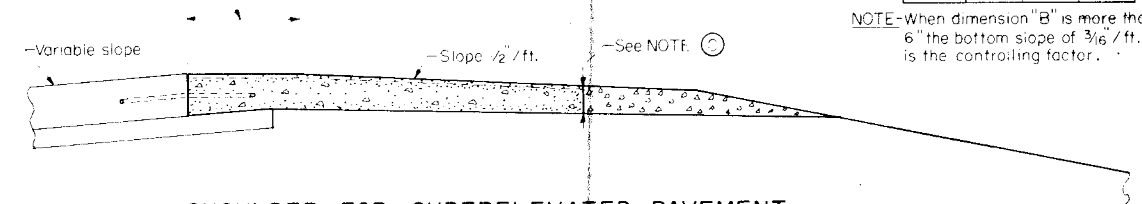
Keyway with tie bars may be provided at the option of the Contractor.

SHOULDER FOR TANGENT PAVEMENT

Stab. width	Pav't. thickness (T)		
	8"	9"	10"
(A)	(B)	(B)	(B)
4'-0"	6 3/4"	7 3/4"	8 3/4"
6'-0"	6"	7 1/8"	8 1/8"
8'-0"	6"	6 1/2"	7 1/2"
10'-0"	6"	6"	6 7/8"

NOTE-When dimension "B" is more than 6" the bottom slope of 3/16"/ft. is the controlling factor.

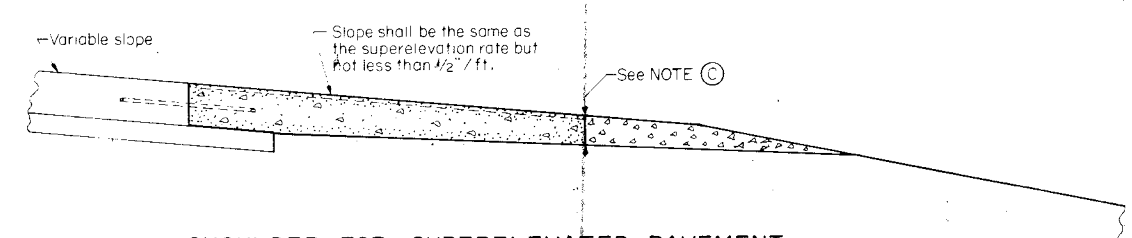
When the superelevation of pavement exceeds 0.04 ft./ft. a 2 foot portion of the shoulder that is adjacent to pavement shall be sloped so that the algebraic difference between pavement and shoulder will not be greater than 0.08 ft./ft.



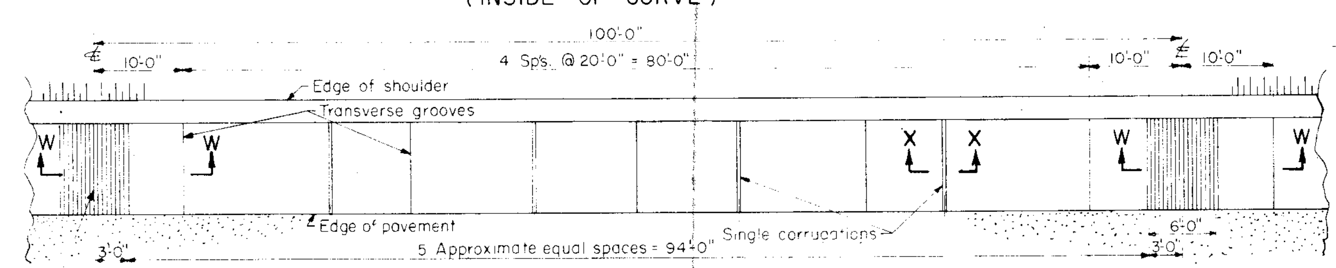
SHOULDER FOR SUPERELEVATED PAVEMENT
(OUTSIDE OF CURVE)

NOTE-
Except as noted or shown the dimensions and notes specified for the shoulder of tangent pavement are typical for the shoulders of superelevated pavement.

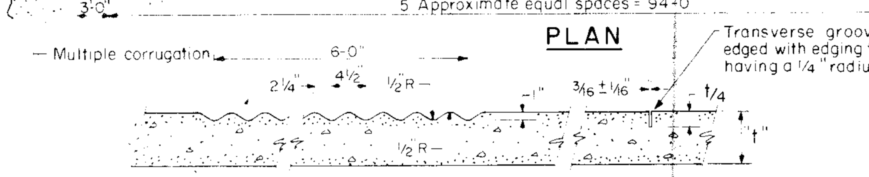
NOTE "C"
Thickness shall be 6 inches, but because of the variations in the thickness of pavement and the slope of superelevation it may be necessary to increase this thickness so that the bottom slope will not be less than 3/16"/ft.



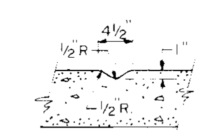
SHOULDER FOR SUPERELEVATED PAVEMENT
(INSIDE OF CURVE)



PLAN



SECTION W-W



SECTION X-X

Place the single corrugations on shoulders only when the pavement grade is 2% or greater.

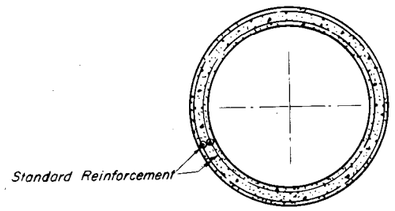
Grooves shall be sealed with a hot poured material meeting the requirements of the Tentative Specifications for Concrete Joint Sealer, Hot-Poured Elastic Type, A.S.T.M. Designation: D1190-52 T, or sealed with a cold applied, ready-mixed concrete joint sealing compound meeting the requirements of Article 716.03.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

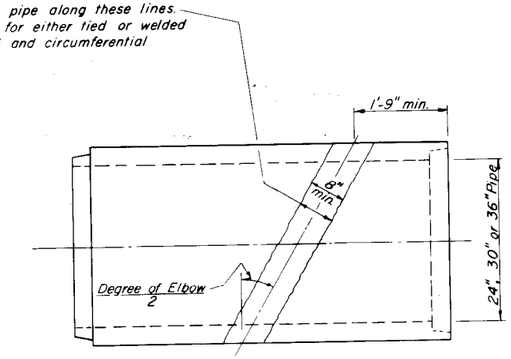
PASSED Jan. 5 1971
A. W. VanAuckall
Engineer of Road Plans And Contracts
APPROVED Jan. 5 1971
W. Baumann

STANDARD 2237-6
(Full Size) W.F.

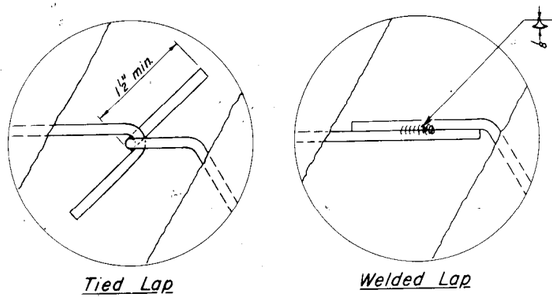
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



TRANSVERSE SECTION



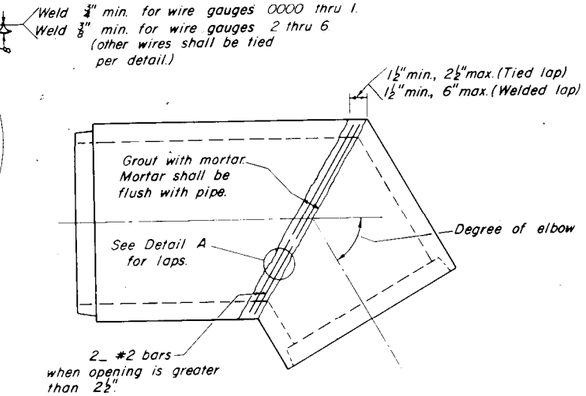
PLAN
Reinf. Concr. Pipe



Tied Lap

Welded Lap

DETAIL A



PLAN
Reinf. Concr. Pipe Elbow

NOTES:

Reinforced Concrete Pipe shall conform to ASTM designation C-76.

Additional reinforcement shall conform to ASTM designation A-15.

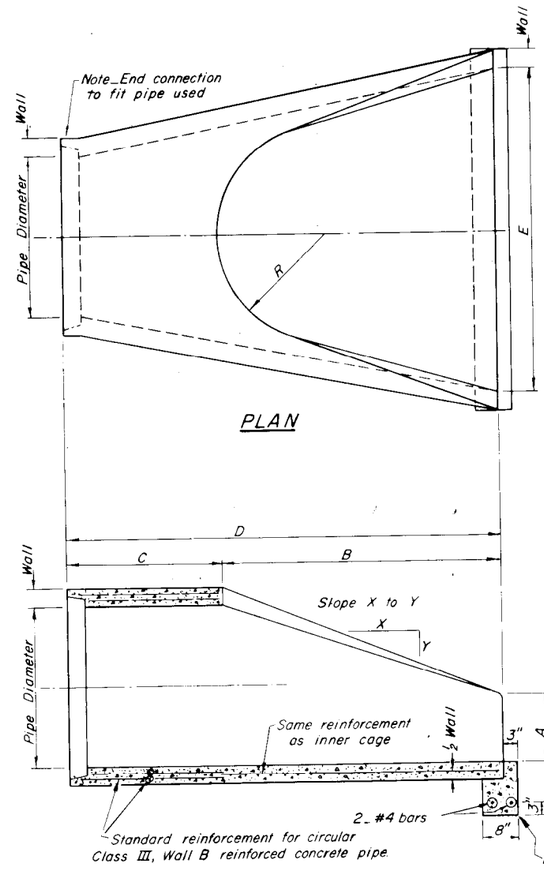
Degree of elbow and Pipe size required shall be as indicated on detail plan for each individual installation.

Cement mortar with banding agent shall be approved by the Engineer.

Basis of Payment_ Reinforced Concrete Pipe Elbow shall be paid for at the contract unit price "each" complete in place for the pipe size specified. This price shall include a six(6) foot length of the reinforced concrete pipe.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	ISSUED 3-4-69	
	REVISIONS	
PASSED Jan. 17, 1972	W.F.	1-17-72
Carl E. Baumann, Engineer of Bridge and Traffic Structures		
APPROVED Jan. 17, 1972		
W.E. Baumann, Engineer of Design		

REINFORCED CONCRETE
PIPE ELBOW



PLAN

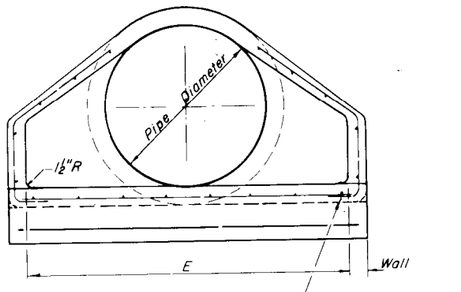
LONGITUDINAL SECTION

NOTES:

Precast concrete flared end sections shall conform to the applicable requirements of ASTM designation C-76, Class III, Wall B reinforced concrete pipe.

Precast concrete flared end section for pipe diameter required shall be as indicated on detail plan for each individual installation.

Pipe Dia.	Wall	A	B	C	D	E	R	Slope
12"	2"	4"	2'-0"	4'-0⅞"	6'-0⅞"	2'-0"	9"	3:1
15"	2¼"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	3:1
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	12"	3:1
21"	2¾"	9"	2'-11"	3'-2"	6'-1"	3'-6"	13"	3:1
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	14"	3:1
27"	3¼"	10½"	4'-0"	2'-1½"	6'-1½"	4'-6"	14½"	3:1
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	15"	3:1
33"	3¾"	1'-1½"	4'-10½"	3'-3¼"	8'-1¾"	5'-6"	17½"	3:1
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	20"	3:1
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	22"	3:1
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	22"	3:1
54"	5½"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	24"	24:1



END VIEW

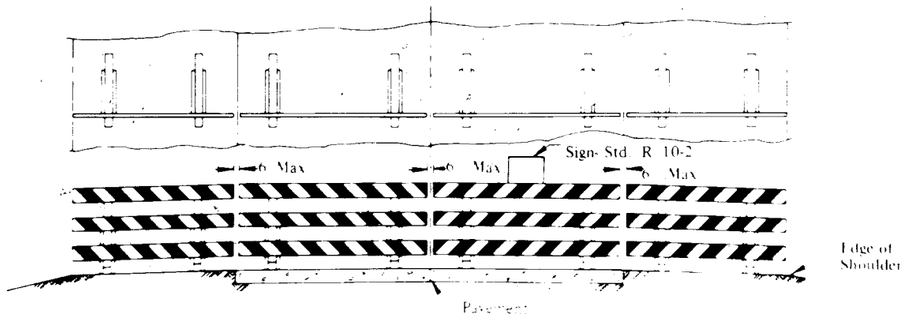
PRECAST REINFORCED CONCRETE
FLARED END SECTION

STANDARD 2262-1
(Full Size)

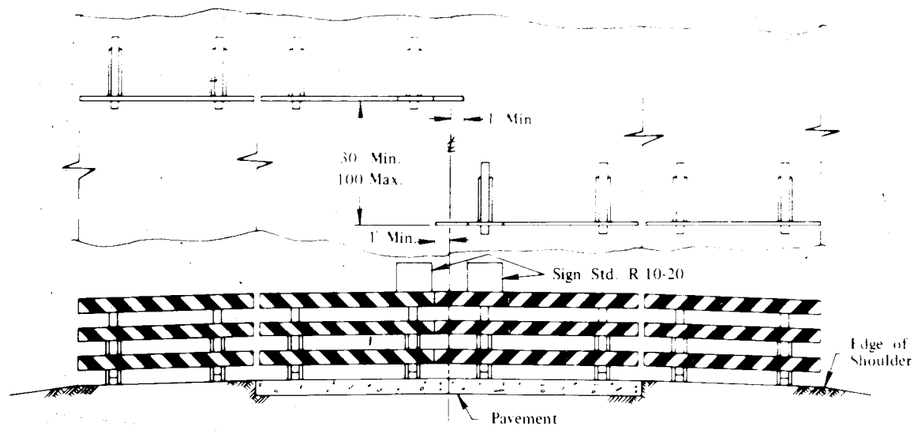
STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

TYPICAL APPLICATIONS OF CLASS I BARRICADES CLOSING A ROAD



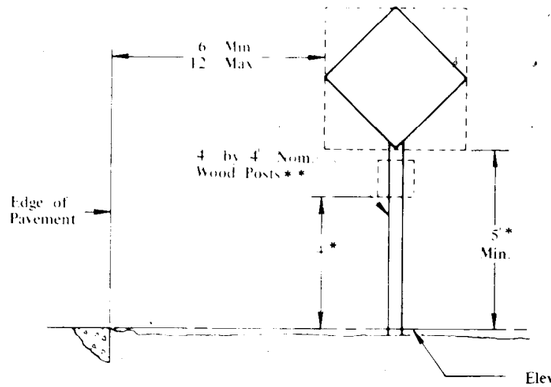
ROAD CLOSED FOR LOCAL TRAFFIC

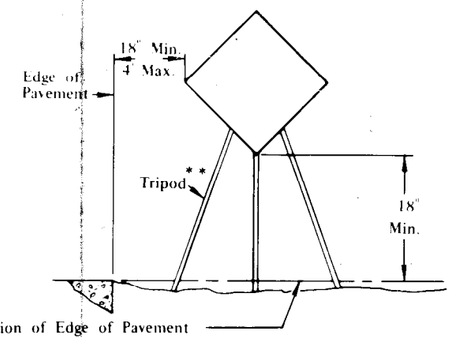


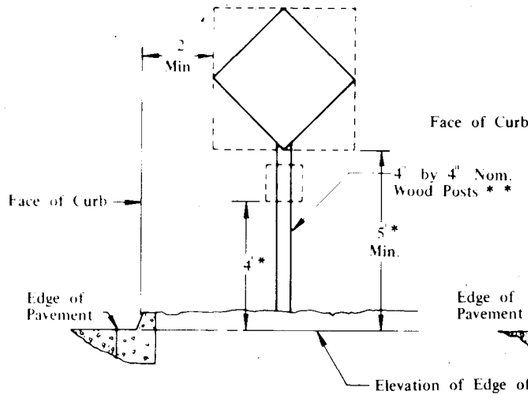
ROAD OPEN FOR LOCAL TRAFFIC

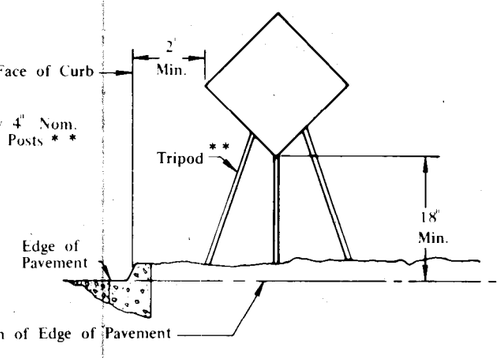
Reflectorized striping shall appear on both sides of barricades. The barricades shall be to the edge of the shoulders, except when otherwise directed by the Engineer or shown on the detailed construction plans.

TYPICAL SIGN INSTALLATIONS









*Add 2 ft. if parking exists within 200 ft. in advance of the sign location at any time during the project.

**Alternate designs and or materials may be permitted when authorized by the District Engineer. All materials shall be substantial and durable.

Signs on temporary supports shall be within 20° of a vertical position.

Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize signs other than sandbags must be rigidly attached to the sign support.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	REVISED BY	DATE
APPROVED April 2 1969	D.A.B.	12 8 69
W. A. Finch Engineer of Traffic	D.A.B.	6 19 70
	D.A.B.	7-1-71

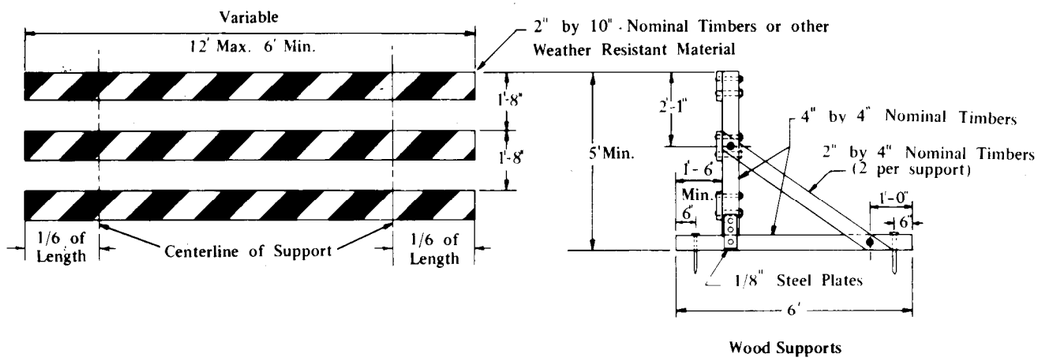
STANDARD 2298-3

F-6.01 b

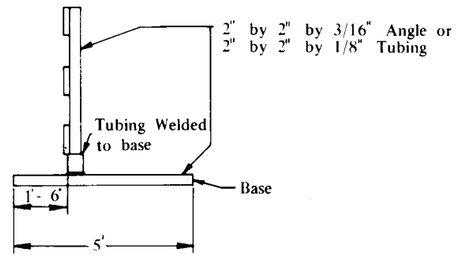
STANDARD DESIGN

DESIGN OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

CLASS I BARRICADES

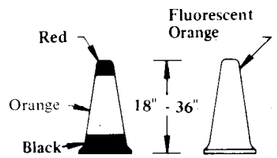


Wood Supports

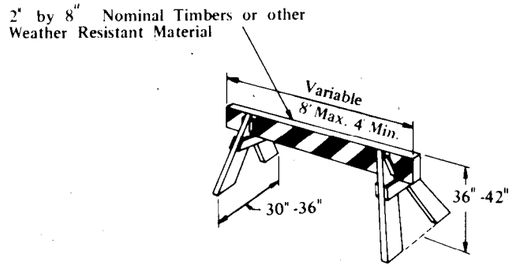


Steel Supports

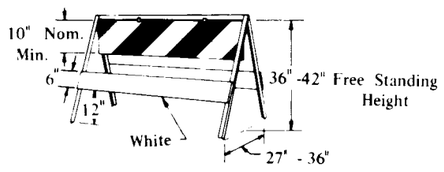
CONES



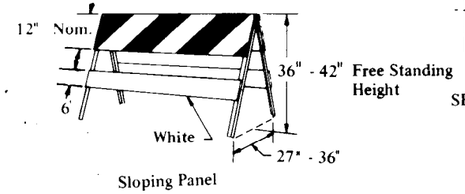
CLASS II BARRICADE



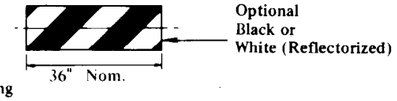
CLASS III BARRICADES



Vertical Panel

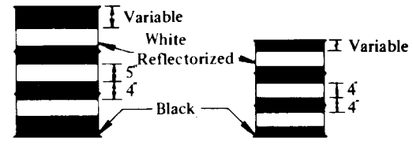


Sloping Panel

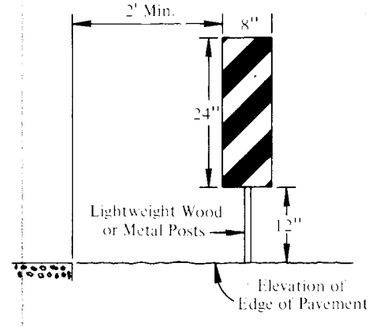


SEE NOTES 3 & 6

STEEL DRUMS



55 Gallon 30 Gallon



VERTICAL PANEL

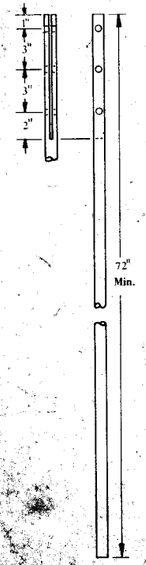
GENERAL NOTES

1. **Barricade legs or supports shall be constructed of either timber or steel and shall be galvanized or painted white or black.**
2. **All reflectorized material shall have a smooth sealed surface covering the reflective elements.**
3. Barricade swinging panels may be divided in two pieces either horizontally or vertically but the combined surface area must be not less than 10 times the required width.
4. All barricades shall have alternating white reflectorized and black stripes at 45° from the vertical. Barricade stripes shall be 6 in. in width. Stripes on vertical panels shall be 3 in. in width.
5. Diagonal stripes shall slope downward at 45° toward the side on which traffic will pass.
6. **Stripe placement on barricades shall be symmetrical and provide maximum reflective material along the end of the panel.**
7. Stripe placement is shown for 12-inch barricade panels. If a vertical panel of less than 12 inches is used, the stripe placement along the horizontal center line of the panel shall be the same as shown for 12-inch panels.
8. **Class II and Class III Barricades shall be striped on both sides.**
9. **Barricades may be identified with a legend that does not exceed one inch in height at a location not visible to traffic.**
10. **Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize barricades other than sandbags must be rigidly attached to the barricades.**
11. **Alternate designs and/or materials may be permitted when authorized in writing by the District Engineer. All materials shall be substantial and durable.**
12. Vertical panels placed on the outside of curves shall be reflectorized in the direction(s) of approaching traffic.

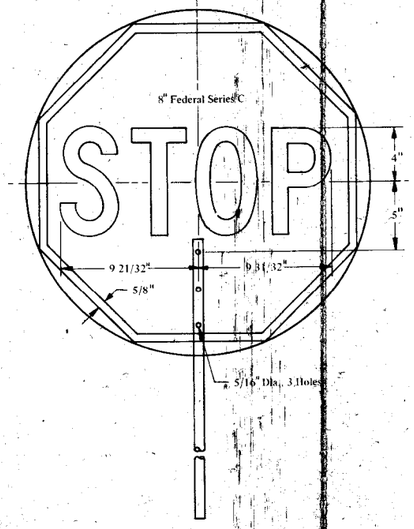
STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	REVISED BY	DATE
APPROVED April 3, 1969	D.A.B.	12-8-69
W. A. Frisch	D.A.B.	7-1-71
Engineer of Traffic	D.L.	4-27-72

STANDARD 2299-

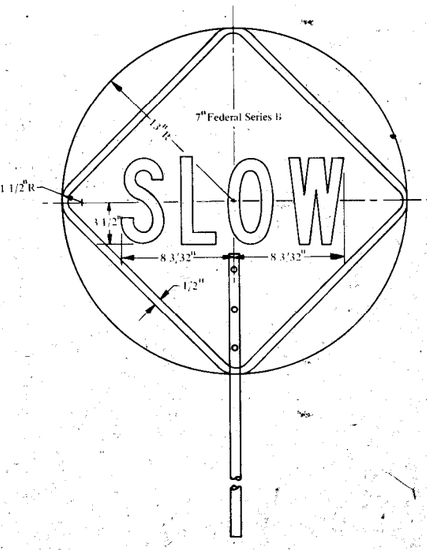
STANDARD DESIGN FOR FLAGMAN TRAFFIC CONTROL SIGN



STAFF



FRONT SIDE



REVERSE SIDE

GENERAL NOTES

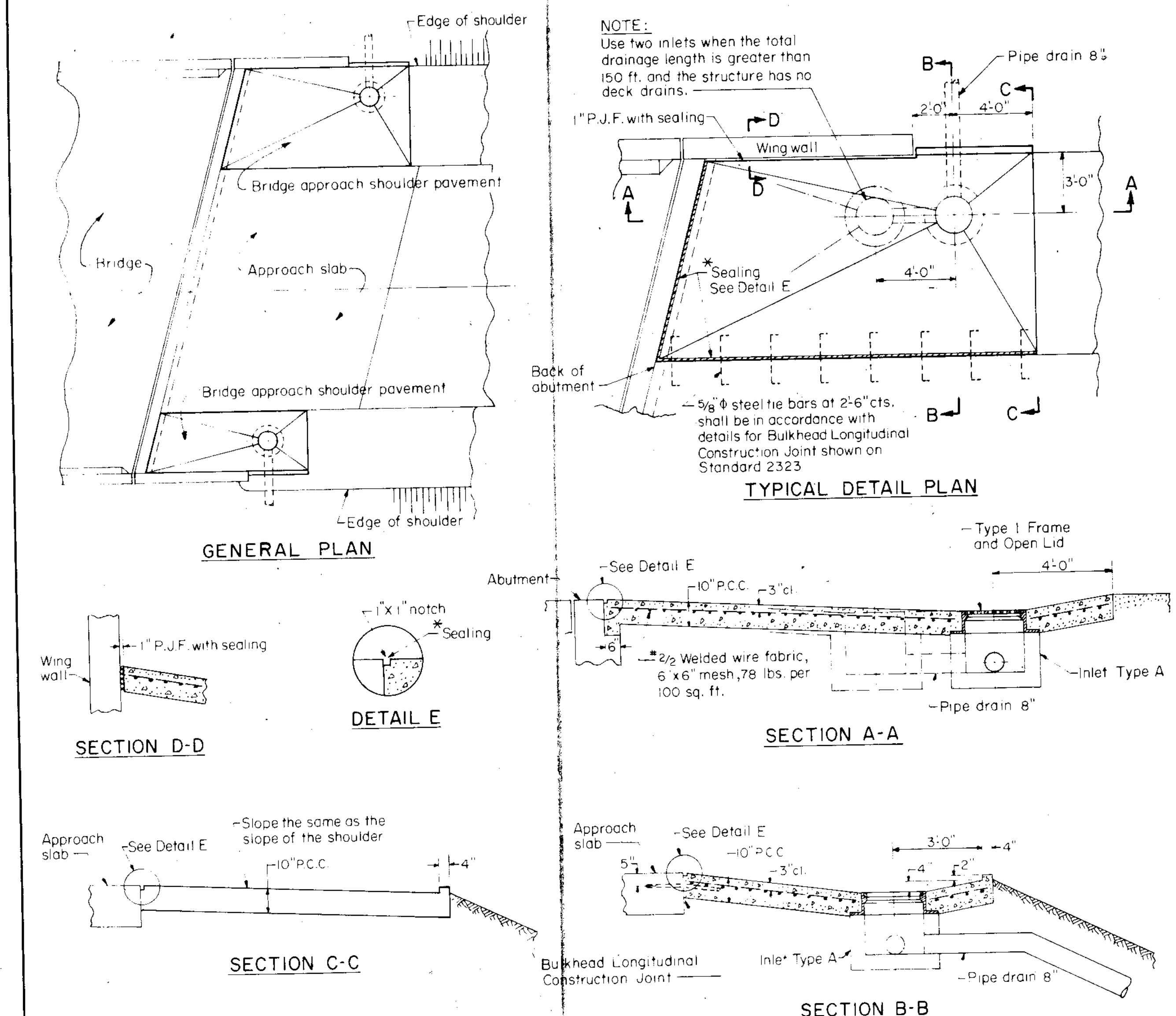
1. The "STOP" face shall consist of white letters and border on a red reflectorized background.
2. The "SLOW" face shall consist of black letters and border on a orange reflectorized background.
3. Areas outside sign borders shall be light blue.
4. The portion of the staff within the sign face shall match the sign colors.
5. All colors and letters shall meet applicable federal standards.
6. The sign shall be attached to the staff with rust resistant 1/4 in. hardware.
7. The sign base material shall be 0.08 aluminum. The staff shall consist of two sections of 3/4 in. galvanized steel conduit joined by a coupling located 60 in. from the bottom of the staff. Alternate designs and/or materials may be used when approved by the District Engineer. All materials shall be substantial and durable.
8. This sign shall be furnished by the contractor and shall be used by the flagman in lieu of flags or other signaling devices. The cost of furnishing and maintaining the sign shall be considered incidental to the contract and no additional compensation will be allowed.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	REVISED BY DATE
APPROVED April 2 1969 W. A. Finch Engineer of Traffic	

STANDARD 2300

STANDARD DESIGN

BRIDGE APPROACH SHOULDER PAVEMENT



The material for Pipe Drains 8" shall be either corrugated steel or aluminum alloy pipe.

Inlets and pipe drains will be paid for in accordance with the Standard Specifications.

Bridge approach shoulder pavement will be measured in square yards and paid for as P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT which shall include the cost of tie bars, reinforcement, joint fillers, and sealing.

GENERAL NOTES

*Where indicated, joints shall be sealed with two component, non-staining, gray, sealing compound with polysulfide liquid polymers, gun grade with primers.

See bridge approach slab plans for location of bridge approach shoulder pavement.

For placement of drainage elements on existing construction with existing rigid approach pavement, substitute expansion anchor bolts for tie bars. For non-rigid approaches, shoulder pavement will be as shown except omit tie bars and inside edge sealing.

For bridges with end posts partially or completely on superstructure, locate the center line of 8" drain pipe a minimum of 6 ft. behind the back of abutment measured as an extension of the outside superstructure edge. If end posts are completely on superstructure, use the outer 2"x4" lip for full length of shoulder pavement.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	ISSUED 12-1-69	
	REVISIONS	
PASSED Mar 18 1970	WE	12-1-69
(signature) Engineer of Road Plans and Contracts	WE	3-18-70
APPROVED Mar 18 1970		
W.E. Baumann Engineer of Design		

STANDARD 2324-1

(Half size) WE